ALUMNI NEWS

CARLETON UNIVERSITY

Volume 5, Number 5
September 1985

The University's Art
page 7

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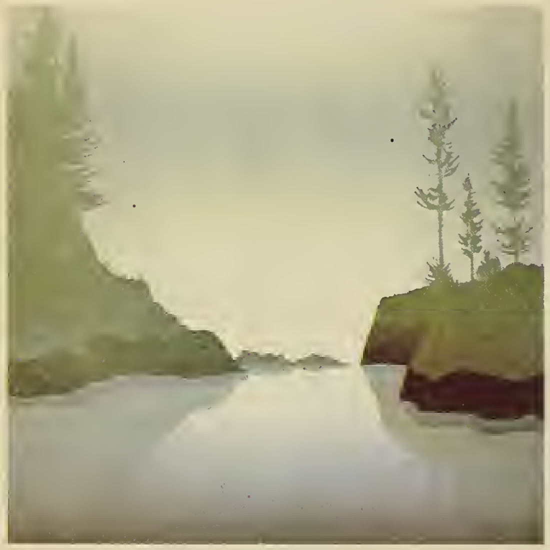
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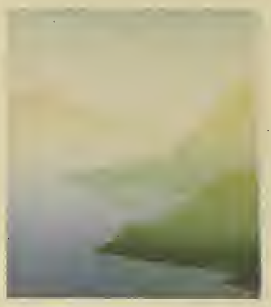
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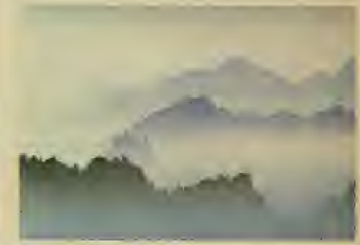
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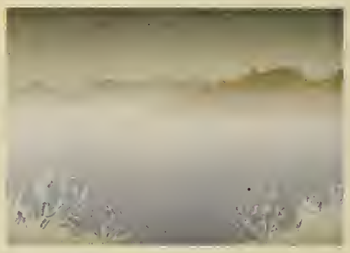
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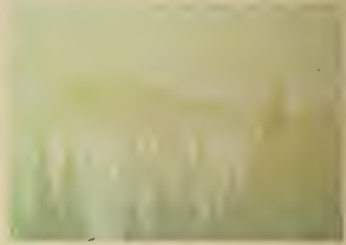
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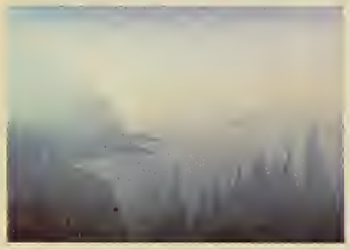
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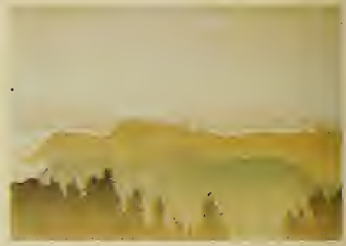
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ALUMNI NEWS

CARLETON UNIVERSITY

Volume 5, Number 5 September 1985

FEATURE REPORT 16

Carleton's Engineering and Residence Buildings are reflected in the new exterior installed on the Arts Tower this summer. The project is one of many already underway or planned for the University. In our feature report, Building for Excellence, we examine what the capital projects are, why the University has embarked on them, and what they mean for the University's academic programs.

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Your views, questions, comments and other suggestions are welcome. Submissions should be addressed to the Editor, Alumni News, at the above address.

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Through the Years

Alumni Awarded Hon. Degrees

Two Carleton alumni, Robin MacNeil (BA/55) and Michael Cowpland (MEng/68, PhD/73), were among five distinguished Canadians who were awarded honorary degrees by the University at Convocation ceremonies in June.

Robin MacNeil, internationally-renowned journalist, was awarded a Doctor of Literature *honoris causa*, and **Michael Cowpland**, Chairman of the Board of Mitel Corporation, was awarded a Doctor of Engineering *honoris causa*.

As well, **Lorraine Monk**, Executive Director of the Canadian Museum of Photography, was awarded a Doctor of Literature *honoris causa;* **A. Edgar Ritchie**, former Ambassador to the U.S.A. and Ireland and Under-Secretary of State, was awarded a Doctor of Laws *honoris causa;* and **Robert Bryce**, former Secretary to the Cabinet and Clerk of the Privy Council, was awarded a Doctor of Laws *honoris causa*.

More than 1,500 students graduated from the University this summer. Chee June Thong, a graduate in mathematics and physics, won the Governor-General's medal; Peter Diedrich, a graduate in electrical engineering, won the Chancellor's medal.

In his address to the graduates, Robin MacNeil reflected on the changes that had taken place in Canada since he received his first degree. Excerpts from his address follow.

"Thirty years ago this week, with my Carleton diploma still warm from the presentation, I headed for the boat to England . . .

"At the time, I was convinced that everything in Canada was oppressive and limiting to the spirit. I felt like the provincial outcasts in Chekov and Turgenev, pining for the distant glories of Moscow and St. Petersburg.

"That state of mind filtered out what was stimulating and congenial here, and let me perceive only what was dreary and confining. It put everything Canadian at a disadvantage, casting everything anywhere else, but chiefly British and American, in an exalted light.

"It has taken me a long time to understand what was operating on us. The simple truth is that many of us were still psychological colonials 30 years ago and you are not. We were still suffering from the colonial wound and you are not. Let me explain that . . .

"The Canadian evolution as a nation was decent and deliberate. It was on a very modest scale, even heroic from time to time, as when Sir Robert Borden stood up to the Imperial War Cabinet in World War One, and in a burst of nationalism, effectively demanded a separate Canadian national identity as the price for Canadian blood.

"A rather thrilling moment, actually, but never awarded its importance in the development of the Canadian psyche. We were not given to magnifying such gestures into glorious myth, partly because our myth-making was done for us elsewhere. At the outbreak of World War Two, as schoolchildren in Halifax assembled for a Victory Loan Drive, we were taught to sing "You're the soldiers of the Queen my lads" . . .

Honorary graduands and their presenters at Convocation (l-r): Tom Rymes, Robert Bryce, Peyton Lyon, and Edgar Ritchie.

"We grew up on other peoples' myths. We invested our energy in their psychic banks, American, British, French, Russian. We felt shy of making deposits in our own cultural bank — like Canadian investors today, who still feel safer putting their cash into American ventures . . .

"It would be very difficult — or perverse — to grow up with such attitudes in Canada today . . . So much has happened in Canada — and to Canada — in these 30 years that, in psychological terms, it almost amounts to the revolution Canada did not have.

"It is 29 years since Ottawa firmly abandoned Westminster on an issue of enormous emotional and symbolic moment to Britain — the Suez crisis — the last mutter of empire. Canada's independence, and role in creating the United Nations Emergency Force, won Lester Pearson the Nobel Peace Prize and gave Canada a different identity on the international scene . . .

"Since then, Britain has become increasingly less relevant to Canada. The maturing of the new ethnic mix has probably hastened that . . .

"Canada, instead, has been more and more preoccupied with the United States and with the puzzling equation of how to let the neighbouring giant foster a higher standard of living here, without devouring Canada politically and culturally . . .

"Even more important, was Canada's self-absorption with its crisis of identity — the place of Quebec, separatism and bilingualism, and the long-delayed symbols of nationhood — flag, anthem, constitution — symbols grudgingly sought and grudgingly accepted by some; but once settled, amazingly potent and seen to have been desperately needed.

"With each gesture, one sensed Canada's confidence growing. With Expo, with Trudeau, with the new sophistication of its cities, Canada revelled in the glow of international attention, even chic. And some alchemy seemed to forge from all these ingredients the missing sense of nationhood.

"And perking, bubbling away in all this ferment was the product of Canadian writers, product emerging in such quantity and quality that it created a critical mass that deserved to be called, at last, a literature.

"Canada had taken vacant possession of its imagination and was rapidly furnishing it. Canada had taken control of its myths.

"I see in you the inheritors of this revolution, the children of a nation that has discovered itself, the first generation free of the colonial wound, with minds quite free of the scar tissue of the imperial past; enriched by what there is to be proud of, not crippled by its burdens . . ."

Munro Beattie Lecture Fund

The Department of English has announced the establishment of the Munro Beattie Lecture Fund.

Alan McLay, Chairman of the Department of English, and one of the initiators of the fund, says "We hope this fund will give public recognition to the important contribution that Professor Beattie has made in over 40 years to the growth of the University, the Department of English, and the study of literature in Canada.

"We believe that the lecture series will be a lasting tribute to his outstanding achievements as a teacher, scholar and administrator."

When Professor Beattie retired from full-time teaching in 1977, his friend and also long-time Carleton personality, Journalism Professor Wilfred Kesterton wrote: "In the early 1930s, when Dr. Beattie was one of Pelham Edgar's students, he conceived an interest in Henry James which has persisted ever since. The novelist is the absorbing subject of Munro's past and present research.

"Like Henry James, Munro is preeminently the civilized man. A favourite public speaker, he is cherished for his urbane and elegant prose. In informal situations, his felicitous phrases are spontaneous. His is not Diderot's staircase wit: he doesn't wait until the party is over to utter the devastating retort."

More than $3,000 has already been pledged towards the $10,000 capital endowment goal for the fund, which will be used to bring a distinguished literary figure to Carleton each year to give a public lecture.

The Department of English is planning to launch the lecture series in October 1986, in honour of Professor Beattie's 75th birthday.

Alumni are invited to support the fund. Letters from the Department are being sent to alumni from the Honours English and graduate programs. As well, contributions to the fund may be sent directly to the University, c/o the Development Office, Carleton University, Ottawa, Canada, K1S 5B6.

This summer, all campus telephone numbers changed from the 231 exchange to the 564 exchange, as a part of the efforts by the University to improve telephone services. Although the first three digits changed, the last four digits for almost all numbers remained the same. The telephone number for the Alumni Relations Office is 564-3833.

William Beckel

President Beckel Reappointed

This summer, the Board of Governors announced the reappointment of William Beckel as President and Vice-Chancellor of Carleton for a three-year term, effective May 15, 1986 to June 30, 1989.

The announcement was made following the Board's acceptance of the recommendation of the Joint Board of Governors/Senate Committee for the Selection of a President. The committee was comprised of three members selected from the Board, and three from Senate.

Dr. Beckel was first appointed President on July 1, 1979, for a term of seven years.

During his term of office, he has been recognized for his administrative abilities in directing a large and complex organization through difficult times.

He is a strong advocate of accessibility for all qualified students within the Ontario university system, and for many years, he has spoken out against provincial underfunding of the system.

Before coming to Carleton, Dr. Beckel served as President of the University of Lethbridge (1972-79). He began his teaching career at the University of Toronto as Assistant Professor of Zoology in 1956. In 1964, he was appointed Dean of Science and Professor at the newly established Scarborough College. A year later, he became Dean of the College, a post he held until 1968, when he was appointed Vice-President (Academic and Finance) at the University of Lethbridge.

Carleton Debating Society

The 1985 Leger Cup
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final round of competition
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594-5561 (President) or
521-1150 (Tournament director)

Campus People

Tom Wilkinson has been appointed Director of the School of Continuing Education for a five-year term, beginning July 1, 1985.

A specialist in water aspects of physical geography, he came to Carleton from the University of Newcastle-upon-Tyne in 1966. He has been a member of the School of Continuing Education Management Committee, Chairman of the Department of Geography, and special assistant to the Dean of Social Sciences.

Kim McCuaig, Associate Director of Physical Education and Athletics, has been appointed Director of Development Services, effective August 1, 1985.

A graduate of both Carleton and the University of Waterloo, Mr. McCuaig has worked at Carleton in various positions since 1966. His previous experience includes financial, program and facility planning; human development; stress management; and feasibility and organizational studies.

Watson Visits Carleton Campus

Wreford Watson, a distinguished geographer at the University of Edinburgh, was in Canada recently to receive two honorary degrees: one from Queen's and one from York University.

He used the opportunity to renew old friendships at Carleton, and to present the University with a contribution on behalf of the Jessie and Wreford Watson Award in Geography.

The gift was made by friends of his wife Jessie, who due to illness had been unable to accompany him to Canada. Her friends wished not only to express their appreciation of Jessie generally, but also to make up for her being unable to join Wreford on this trip.

The Watsons have a long association with Carleton. In 1949, when he was the Chief Geographer for Canada, Wreford taught the first geography course at Carleton. Jessie joined him one year later as a full-time lecturer, and together they taught at Carleton until 1954, when they left for Scotland and the University of Edinburgh.

Dr. Watson was awarded an honorary degree from Carleton in 1979. The Jessie and Wreford Watson Award in Geography was established at that time by friends and colleagues in recognition of the role the Watsons played in the formative days of the discipline at Carleton.

The Fund has received wide support from within and outside the University.

Contributions continue to be welcome. They should be forwarded to the Development Office, Carleton University, Ottawa, Canada K1S 5B6.

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Order a subscription to Carleton University's weekly student newsmagazine, *The Charlatan.* Keep abreast of news, arts, sports and what todays students are up to. For $10 (institutions: $13) you get 28 issues to keep in touch.

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CITY PROV. CODE

Students Win Awards

Students from Carleton's Schools of Architecture and Journalism were big winners this summer.

The Architecture students won the lion's share of awards in an Ontario government-sponsored competition by winning three of five first prizes and seven of 10 second prizes.

The competition was based on the theme "What would a Carnegie Library be if it were designed today?"

Students and recent graduates from Ontario's three schools of architecture (the other two are located at Toronto and Waterloo) were invited to participate.

The three first-prize winners from Carleton were: Dwight Lander, Harley Swedler and Joey Turk. The seven second prize winners were: Art Cader, Harry Gaumer, Pat Harrop, David Heintz, Gelsie Petti, John Walmsley and William Weima.

The Schools of Architecture at Toronto and Waterloo ran the project as a 12-week design studio problem. At Carleton, it was run for six weeks in the second term of the fourth-year design studio. Faculty advisers included Greg Andonian, Tom Dubicanac, Gilbert Sutton and Alex Rankin.

Over in the School of Journalism, Hoda Elatawi and Shari Schwartz, now graduates, won an award for their television production, *Truth and Beauty,* a half-hour documentary on women in Canadian television.

Undertaken as the Honours Research Project for their Bachelor of Journalism degree in 1984, the documentary was picked as the best student production in Canada at the convention of the Association for Media and Technology in Education, held in June at the University of Calgary.

Hoda and Shari interviewed some of the most prominent women in Canadian television to get their views on how difficult it is to get to the top and be accepted as credible newspeople.

They travelled to Toronto, Montreal, and even Wingham, Ontario, in search of material.

In addition to interviews with newsreaders such as Jan Tennant at Global and Kathy Kieffler at CMBT in Montreal, they incorporated interviews with Linda MacLennan of CJOH (now with Canada AM); Joanna Piros at CKVU Vancouver; Jane Gilbert at CJOH; and Gail Scott (formerly of Canada AM, and now at Ryerson Technical Institute). All except for Kieffler and Tennant are graduates of Carleton's School of Journalism.

The documentary was made possible by a grant from the Women's Bureau of the Canadian Labour Department. It enabled

Shari and Hoda to get some professional cameramen to shoot their video tapes. Other video segments were shot by Carleton's own technicians, and the final assembly and editing of the master copy was done by VTR editors in the University's Instructional Aids Department.

Hoda and Shari are now both working for advertising and media agencies; Hoda in Cairo, Egypt, and Shari in Toronto.

Their adviser on the project at Carleton was Journalism professor George Frajkor.

Bell Donates Computer

Students in engineering, and particularly electronics, at Carleton are now better equipped for their studies thanks to the donation of a computer from Bell Canada.

In a recent ceremony at the University, Dean of Engineering Spruce Riordon formally took possession of the Bell computer from Pierre Chagnon, Vice-President (Engineering).

"The rapid changes in telecommunications technology have made it possible for us to donate surplus equipment to universities," said Mr. Chagnon.

"This particular computer reached the end of its useful life for Bell last year. We are happy it can be used as a teaching aid at Carleton."

In assessing the impact of the gift on the University, Dean Riordon commented that "the computer will be valuable in keeping us up-to-date. We are always in need of modern equipment — especially in the expensive world of computer technology.

"Students in our microprocessing labs will be the big beneficiaries of the donation."

Electronics professor John Knight was delighted to learn that the computer's circuit boards will be used in his Advanced Digital Logic class.

"We have had to make do till now with homemade boards," he said. "The Bell computer gives us a chance to work with good, modern circuits."

The computer donated by Bell is a DMAS unit, built by the INTEL Corporation. It helped Bell automate the maintenance of its digital telephone exchanges, by remotely monitoring the exchange and identifying problem areas.

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CABLE 15 IN OTTAWA

Library Rededicated

More than 50 people were on hand on July 11 for the rededication of the MacOdrum Library by Marianne Scott, National Librarian of Canada.

During the past two years, the Library has undergone a $2 million renovation, including a recladding of the exterior wall, replacement of all windows, and a new main entrance for improved access.

The work was required to improve the environmental controls of the building to protect the Library's holdings.

Most of the project was funded by an Ontario government BILD grant.

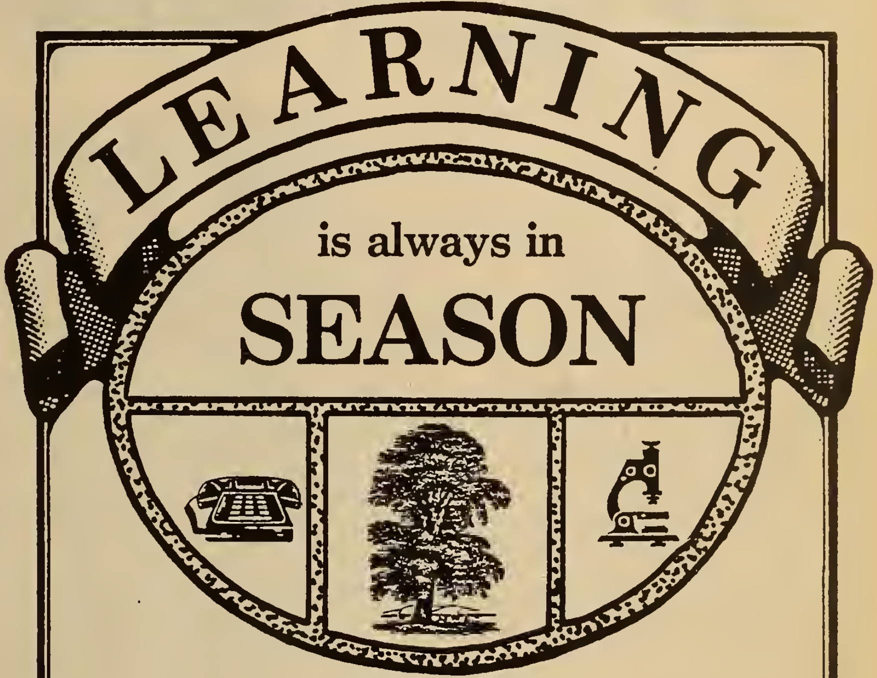
Included in the rededication party with Ms. Scott were Carleton President William Beckel; Chairman of the Board of Governors Claude Edwards; University Librarian Geoffrey Briggs; and Carleton East MPP Gilles Morin, representing the Ontario government.

In her remarks, Ms. Scott emphasized the interdependence of libraries and the sharing of resources, which are characteristics of effective modern libraries.

She said Carleton's decision to renovate and improve the MacOdrum Library was "evidence of sound and forward-thinking stewardship of a very precious resource."

The MacOdrum Library was originally dedicated in 1958 by Dr. Kaye Lamb, National Librarian and Dominion Archivist.

A new dedication plaque, replacing the original dedication inscription removed during the renovations, will hang on the main level next to the photograph of the library's namesake, Dr. Maxwell MacOdrum, Carleton's second president.



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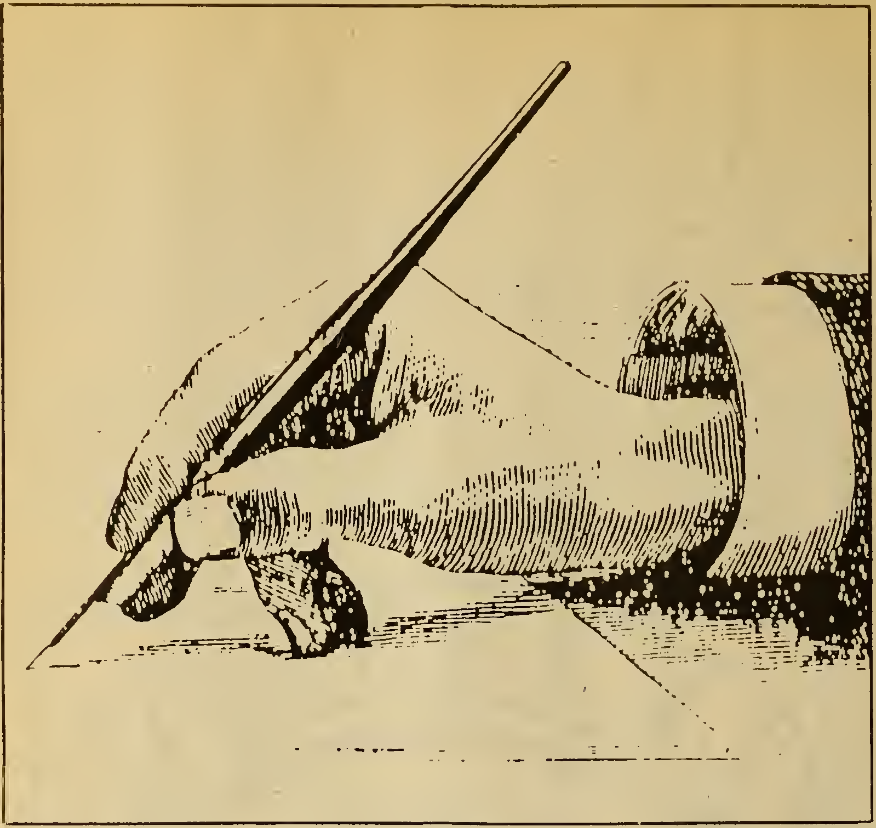


Teaching How To Write

A research team of eight, drawn largely from Carleton's Departments of English and Linguistics, have probed how we teach that basic human skill: the ability to write.

Their findings have recently been released in a three-volume work, *The Teaching of Composition: A Study of the Approach to Writing Skills in Ontario Faculties of Education and Teachers' Colleges, Related Surveys, and a Bibliography.*

The report has been published in a microfiche edition by the Ontario Ministry of Colleges and Universities, and is being sent to about 70 institutions, including faculties of education in Ontario, and ministries of education in other provinces.

Carleton English professor, James Steele, served as the principal investigator for the study.

Other members from Carleton's English Department were Alan McLay, Munro Beattie and James Downey (now President of the University of New Brunswick). Professors Ian Pringle and Aviva Freedman, from the Linguistics Department, served as co-investigator and project coordinator, respectively.

W.R. McGillivray, Superintendent of Programs for the Carleton Board of Education, and Trevor Banks, an Ottawa secondary-school teacher of English, completed the team.

Their report makes 15 unanimous recommendations, and includes six minority recommendations from Professor Steele on methods of training teachers who teach writing skills in grades seven to 13, and materials related to teaching composition.

The researchers were charged with four tasks:

1) to report on methods used to train teachers of writing skills in the two Ontario Teacher Education Colleges (then located in Toronto and Hamilton) and in the Faculties of Education in the following Ontario universities: Brock, Lakehead, Laurentian, Ottawa, Queen's, Toronto, Western Ontario, Windsor and York;

2) to review North American literature on the teaching of composition;

3) to compile a bibliography on the teaching of composition and prepare abstracts of certain categories of items; and

4) to make recommendations to the Minister of Colleges and Universities on ways to improve the training of teachers of writing skills.

"The project was a lot more work than we had anticipated," says Professor Steele. "We had a substantial grant of about $80,000, but that didn't begin to cover the hours spent on the project."

A major difficulty encountered by the researchers was identified by Professors Pringle and Freedman.

"In discussing one small area of teacher training, we found ourselves wanting to make recommendations that would affect teacher training in all subjects and all practising teachers, no matter what their subjects," they wrote. "Having undertaken to investigate the training of teachers to teach expository writing, we found that it entailed an investigation of education."

In addition, they found the compilation of the bibliography to be a massive undertaking in that "the 1970s were years of extraordinarily intensive research into writing and the acquisition and development of the ability to write."

Surveys were taken of three groups: Faculties of Education, student teachers, and practising teachers. Five key problem areas were identified:

1) Writing: what is known about the acquisition and development of writing abilities, especially as a result of research conducted during the last decade; what do teachers need to know about this research and its implications for their work in schools; and how can this information best be imparted both to student teachers and to practising teachers;

2) the place of expository writing in relation to the whole spectrum of writing skills;

3) the question of grammar teaching as it relates to the teaching of writing;

4) the difficulties involved in effecting and maintaining changes in teachers' attitudes and practices related to writing, given culturally imparted beliefs which are deeply entrenched and pervasive; and

5) the structures within which teacher training takes place.

Out of these considerations, two sets of recommendations emerged.

The unanimous recommendations suggest, among other things, new composition textbooks, stricter standards for teachers, more time for practice teaching, and the establishment of provincial organizations to advise and provide information to teachers.

Professor Steele's recommendations include making student teachers aware of theorists' disputes over the problematic relationship between oral speech and written speech, and the function of language in mental development. He also draws attention to the potential usefulness of symbolic schemes for enabling a student to transfer consciously a theoretical knowledge of text grammar to practical composition.

Secondary school students won't be the only ones to benefit from the study. Professor Steele says some of the information has been incorporated into the curriculum for a first-year writing and language course at Carleton, as well as for the department's Certificate Program in English Language and Composition.

Exhibiting the University's Art

Art history professor Roger Mesley has a unique challenge.

As curator of Carleton's art collection, he is responsible for exhibiting works from the collection, even though the University does not have a gallery to house them.

With some 350 pieces in the collection, he needs considerable ingenuity and an innovative approach to bring them to the attention of the University community.

Major pieces are displayed throughout the main public foyers of the campus, as well as in the offices of the president, vice-presidents, and deans. But as well, Professor Mesley has found a number of new solutions to the problem of exhibiting art from the collection.

"In the last couple of years, we've been mounting smaller exhibitions with a thematic focus," he says. "Last year in the Library, for example, we had an exhibit of 25 works to demonstrate techniques of print-making curated by Eva Major-Marothy, an art history lecturer."

Another example of this approach was an exhibit of recently acquired works on display in Paterson Hall during the summer.

"Everybody passes through the Library and Paterson foyer," he says. "By osmosis, I hope they will gain some appreciation for the collection."

He also uses works from the collection in the teaching program of the department. "In a course we gave on 19th Century art, one of the topics was to research a print that was on display at the time," he says.

With enrolment in art history increasing significantly in the last two years, he's reaching a broad range of students.

"There's been a great influx of students taking two or three art history courses," he says. "We're getting more students from architecture, film studies, mass communication, industrial design and English — wherever art history seems to be involved with their subject."

He says the art history department at Carleton tends to be historical and humanistic. "We basically attempt to deal with the idea of understanding the human condition through the study of the cultural position of art," he says.

So far as teaching in the department is concerned, he says the University's art collection is particularly valuable for Canadian material.

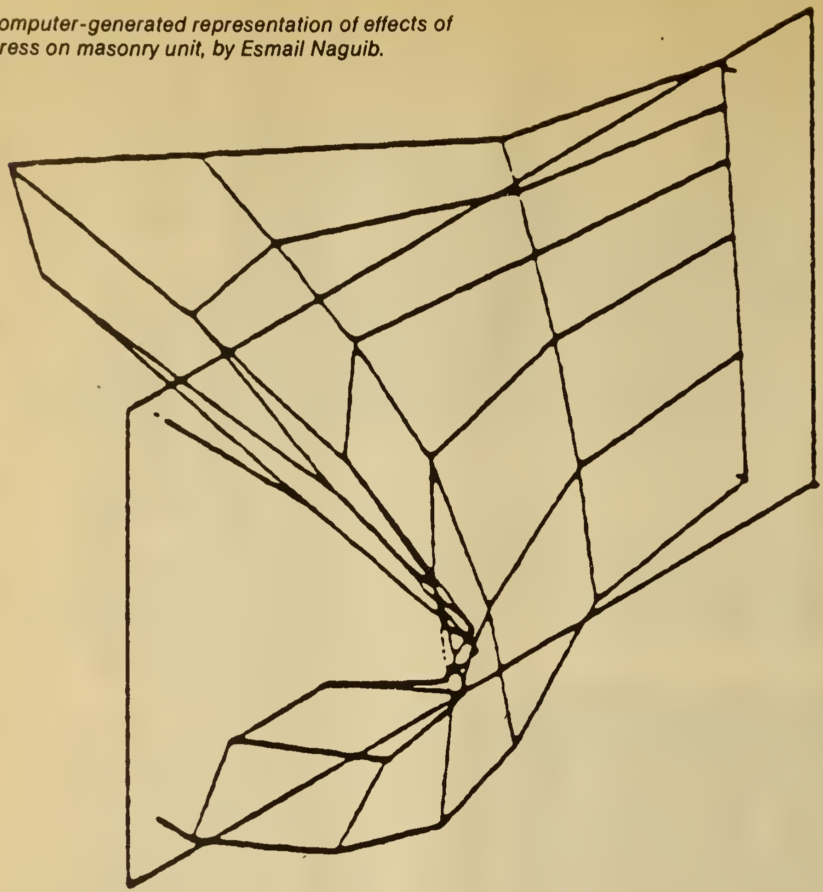
"One of the greater strengths," he says, is with respect to the techniques of art, especially print-making. We have a pretty strong collection of Canadian prints."

The University has only a small acquisitions budget, so the collection increases largely through donations. And these have picked up over the past few years, "especially from alumni and professors," he says.

He also notes that Malcolm Welch, the owner of Torbolton Oaks Art Gallery near Ottawa, has instituted a plan of regular donations — having donated three works to the University so far.

Mr. Welch says it gives him an opportunity to increase the exposure of artists whose works are displayed in his gallery.

ABOVE: Inlet #3, *by Conrad Furey, acrylic on canvas, 1984. Donated by Malcolm Welch, 1984. LEFT:* Toronto 20 'Carla Bley', *photo-print on paper, 1965. From the Anne Wilkinson Collection.*



Computer-generated representation of effects of stress on masonry unit, by Esmail Naguib.

Masonry Stresses Studied

Gary Suter is probably one of the few people you'll meet who actually appreciates cracks in walls.

A civil engineering professor who specializes in the use of masonry as a structural material, he's attempting to predict when and under what conditions cracks will occur.

"Once cracks occur, water penetrates the wall, resulting in deterioration through the action of freezing and thawing," he explains. "The question of knowing when and why the first crack will occur is important from the point of view of the serviceability of the building."

Using finite element analysis, PhD student Esmail Naguib is helping him to find the answer to this problem. It's just part of the information needed to compile a limit states design based masonry code.

"Other structural materials, such as steel, reinforced concrete and even timber already have this kind of code," says Professor Suter. "It defines the safety and serviceability of the material being used, and is developed on the basis of solid research."

Although masonry has been used to construct building for centuries, until recently it has been virtually overlooked as a research area. In fact, Professor Suter is somewhat of a Canadian pioneer in the field.

As he explains it, masonry gave way to steel and reinforced concrete as the major structural materials for buildings in the 20th Century.

"As research with these materials progressed, buildings using them began to be designed more efficiently," he says. "The building's members became stronger, lighter, and more economical."

By contrast, masonry became the massive material. At the turn of the century, a 15-storey structure would have been built with walls 1.5 metres thick according to the rules of thumb that were used for masonry construction, says Professor Suter.

Masonry could not compete as a structural material and, as its use diminished, so did research about it.

Interest in the material revived, principally in Europe, during the 1940s. By the 1950s, a Swiss masonry team of researchers, designers, builders and manufacturers, developed the expertise to build apartment buildings up to 20 storeys in height with walls only .2 metres thick.

"It was to masonry like the Eiffel Tower was to steel construction," says Professor Suter. "It was the symbol of new structural possibilities."

His own interest in the subject dates to the late 1960s, when an Ottawa firm asked for his assistance in applying a newly-developed floor system to an engineered masonry structure.

Even then, the subject was relatively unknown in Canada.

"I quickly discovered that Canadian engineers knew little about the subject," recalls Professor Suter. "There were no university courses on the subject, and what little research there was focused on such topics as water penetration of masonry walls, rather than structural problems."

In 1974, he spent a year's sabbatical at the University of Edinburgh in Scotland, with one of the world's leading experts on the subject to develop his own expertise in the area. Now, researchers at about six Canadian universities are working in the field.

Professor Suter explains that masonry is suitable for a structural material in buildings such as apartments, senior citizen homes, and student residences; wherever there is a repetitive alignment of walls which can serve as bearing walls.

In such buildings, masonry not only supports the building, but also serves as the walls to divide space, gives fire protection, and provides desirable acoustic and aesthetic properties.

"By putting up load bearing masonry walls," says Professor Suter, "you get a combination of desirable properties with a single element."

In addition to this research into predicting building cracks, he is looking into stress caused by weather and temperature variations (with PhD student Habib Rahman), and is measuring movement between brick veneer and structural masonry in two high-rise buildings in Mississauga. ("The buildings don't move anywhere near as much as we had thought they would," he says.)

His work is supported by the Natural Science and Engineering Research Council, as well as by the masonry industry and local builders, who provide him with material free of charge.

"We need this combination of groups working together to be successful in our research efforts," he says.

He's in the process of making arrangements to use a building planned for construction in the Ottawa area for future measurements and tests.

As well, he says, he'd like to shift his research to problems of the behaviour and serviceability of masonry in low rise buildings, another area which has not been well researched.

"The usual problem," he says, "is cracking."

Study Could Save $Millions

Carleton engineering professor Herb Saravanamuttoo may be able to help pipeline companies save a bundle.

Over the past years, he's developed methods for analyzing gas turbine engines to assess the efficiency of their performance. Now, he's on the verge of developing a computer-based program that can actually predict when maintenance is needed to return the gas turbine to peak operating efficiency.

"Pipelines require compressors every 50 miles or so to maintain pressure," he explains. "The trans-Canada pipeline, for example, has about 50 compressor stations, requiring 1,000 megawatts of power, to pump gas across Canada."

However, he says, the gas turbine power units required to drive the compressors deteriorate over time, due to fouling caused by bugs, dust, oil leaks and so on. He's trying to develop models to predict what effect the fouling has on the efficiency of the gas turbines.

"Once we know the effect, we can make calculations on the best frequency for cleaning the compressor to maintain performance," he says. "The point is, it's inconvenient to clean more than you have to, but if you leave it too long, there's an economic penalty."

As well, he adds, there's considerable advantage in a timely maintenance program.

"TransCanada PipeLines expects to burn $180 million of fuel this year," he says. "Even a one percent improvement in engine efficiency would save them almost $2 million."

Professor Saravanamuttoo has worked with gas turbine engines for more than 25 years, and since coming to Carleton's Department of Mechanical and Aeronautical Engineering in 1970, has helped the University to acquire an international reputation for research on the subject.

A short course, offered by Professors Saravanamuttoo, James Kirkhope and Steen Sjolander, along with Carleton alumnus Bernard MacIsaac, regularly attracts engineers from across Canada, the United States, and Europe. The course is also offered in-house at both Pratt and Whitney of Canada and Rolls Royce of Canada.

He's devised a hand-held programmable calculator for the Canadian Coast Guard to enable them to analyze engine data while at sea to determine whether their vessels are running at peak capacity. And he's also completed projects for both the Canadian and the Royal Navies.

His research at Carleton is funded by the Natural Science and Engineering Research Council, and he also works closely with companies to run experiments with their equipment.

He says research at Carleton is unique from two points of view.

"We are essentially operating as gas turbine engineers, whereas others are approaching the problem from a computing background without a real understanding of how the engines operate," he says.

"As well, our work is aimed at the user. It's very applicable, rather than being design-oriented."

The department has also established a close connection with a local engineering company headed by Carleton alumnus, Bernard MacIsaac (MEng/72, PhD/75). As suggested by its name, GasTOPS, the company specializes in gas turbine engines, as well as control systems simulation and testing.

Professor Saravanamuttoo, along with colleagues James Kirkhope and Richard Kind, often works on company projects.

Herbert Saravanmuttoo.

A typical one was the development of a computer-based gas turbine analysis program for the American Gas Association, developed by Dr. MacIsaac and Professor Saravanamuttoo, with another Carleton grad, Bob Kind (BEng/75).

Says Dr. MacIsaac, "I hold them in high regard, and welcome their technical input to projects whenever I can."

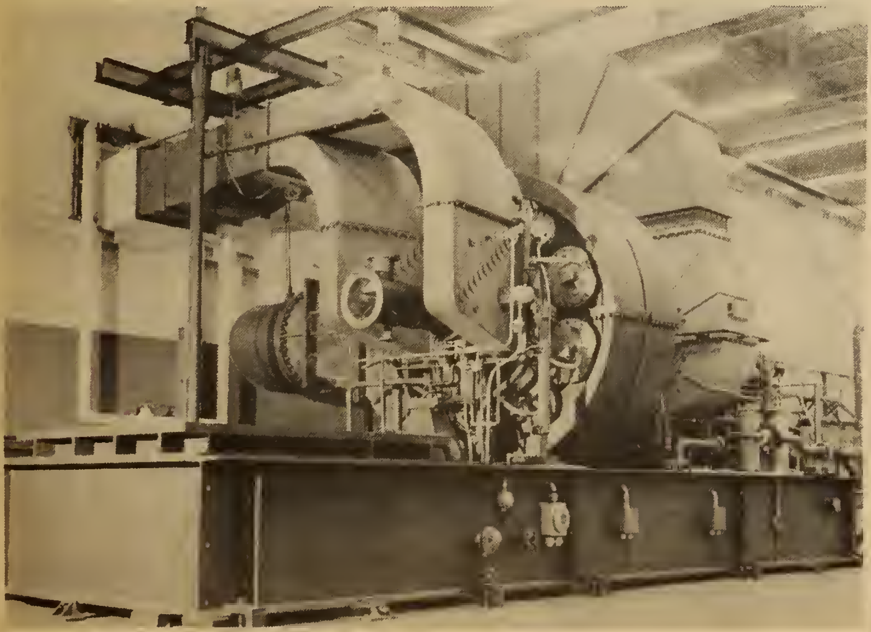
Most of his employees are Carleton graduates, and he regularly hires students from the department for the summer. As well, he lectures to graduating students on how to start and run an engineering firm.

A regular contributor to Professor Saravanamuttoo's short course on gas turbines, he says "I'm very supportive of more education. In the game of engineering, I don't think you can ever have enough."

He says he values the relationship with the University, and adds that both universities and business have a distinct role with respect to research.

"It may take five years before a company will pick up on something that a university has developed, and no university will get any specific credit for having developed the idea," he says.

"It's not possible for educational institutions with good people to follow the whims of business; I don't see how you can run a research department that way. I would far rather see universities doing specific things that technically good and add to the general fund of knowledge."


Gas turbine from Alberta Gas Trunk Line.

Science Centre Has Unique Role

This summer, Carleton's Science Technology Centre celebrated some impressive achievements that were both locally and internationally significant.

At the local level, the Centre developed a prototype device to assist in the radiotherapy treatment of cancer patients at the Ottawa Regional Cancer Centre.

At the international level, it fabricated a large particle detector for use in high energy physics research by scientists at CERN, Switzerland.

Dr. Andre Girard, Head of Radiation Oncology at the Ottawa Regional Cancer Centre, says they needed a device to immobilize patients to assure that radiation went to the tumour without affecting surrounding healthy tissue.

Over time, he says, you have to assure that the patient is in exactly the same position.

"Although you can buy such devices, nothing met the requirements we have," he said. "We looked around, but couldn't find what we needed. One of our physicists knew of the work being done at Carleton, so we asked if they could help us out.

"They have come up with something that comes very close to meeting our requirements."

The contract for the particle detector at CERN came to the Centre after efforts to have it fabricated elsewhere failed.

Although the Centre had made detectors previously, its director, Louis Raffler, says the requirements for this one meant that it had to be significantly larger than the others.

"The unit is manufactured of mylar and honeycomb so that it has a low mass, yet is strong enough to support wires," he explains.

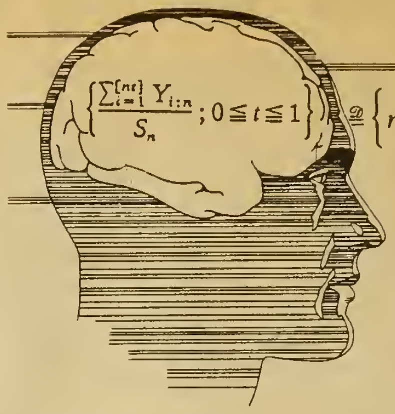
Complications arise because the material is very difficult to handle, and there are no machines to maintain the standards.

In addition, the dimensions are crucial, he says. "The diameter had to be 36 inches plus or minus .002 inches."

Mr. Raffler and Dean of Science James Neelin are justifiably proud of the Centre's achievements.

The primary purpose of the Centre, says Dean Neelin, is to fabricate equipment not commercially available for teaching and research purposes at Carleton, both for the Faculty of Science and other departments. "It's really a developmental unit that fabricates prototypes and unique instruments." says Dean Neelin.

He says the Centre's involvement with external groups has enabled it to acquire the expertise and funds to respond with greater ease to the growing demands of the University.



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Statistics Lab Makes its Mark

Mindboggling. There's no better word to describe the work of researchers in the Laboratory for Statistics and Probability.

The Lab was established just three years ago by Carleton University and the University of Ottawa with a grant from the Natural Science and Engineering Research Council. But already, it has acquired an international reputation.

More than 40 scholars from across Canada, the United States, Europe and Asia, visit the Lab annually; some 66 volumes of collected research papers have been published and distributed worldwide; two of its directors — Carleton professors Miklos Csorgo and Donald Dawson — have received prestigious Killam awards; another director, Carleton professor J.N.K. Rao, has been a member of the advisory committee of both Statistics Canada and the U.S. Census Bureau; speakers and participants from around the world attend research symposia and seminars organized by the Lab; and members include researchers from Japan, the United States and Europe, as well as from federal government departments in Canada.

In a discipline where geometry, algebra and calculus reigned supreme for centuries, theory of probability is a young upstart. Says Professor Csorgo, the subject only became recognized as a formal branch of mathematics about the beginning of this century.

Depending on one's interest, research could involve modelling space and time statistics to predict the outcome of certain events, explains Professor Csorgo. "We would establish probabilistic models, work out theories to make predictions, and finally, perform statistical analysis of the outcome of experiments to confirm or not confirm the theory."

It's a branch of mathematics that views the computer as a helpful intruder. "Most of our work is done in our heads," says Professor Csorgo.

"Even though we have terminals all over the department now, using the computer is like scanning the horizon. We try to test the validity of conjectures in terms of a large number of experiments repeated many times on the computer."

Despite the seemingly esoteric nature of the subject, it has very definite applications, in areas such as quality control, health, and even geology.

One of Professor Csorgo's students even developed a model for estimating how much electricity was being used, but not paid for, by customers of Ontario Hydro, then recommended the best places to put instruments that would catch the users.

Atomic waste storage is another major application of the research. Says Professor Csorgo, "You would want to put atomic waste into containers and then put them someplace that was fairly remote. You would not be able to see what was happening inside the containers, or even see the containers themselves, yet would want to make an educated guess as to what was going on."

It's because of the applicability of research in the subject that most people think of labs in statistics and probability as consulting units, says Professor Csorgo.

Although this does happen, Professor Csorgo says that principally, "The lab is recognized as a centre of excellence for basic research. We're unique in Canada in that we are trying to combine a very strong line of probability theory and statistics.

"We're trying to provide tools for probabilistic and statistical analysis . . . We have good people, and a stimulating atmosphere . . . The inter-relationship of people here with visitors who come and go puts us in touch with some of the most outstanding minds in the world today.

"To be able to plug into that and stimulate each other's work is very exciting."

Of his own work, he says, "By the end of my life, I will probably have more unsolved problems than solved ones, so the next generation will have their share."

Few people of this generation would probably understand this title typical of one of the lab's publications: "Applications of a new approximation of uniform empirical and quantile processes to statistics and probability."

But the day may not be that far off when it is as familiar as terms from the other branches of mathematics, terms such as triangle, equation, and multiplication.

The Secrets of the Corn

Carleton biologist Margaret McCully is looking at plants from different perspectives — and she's uncovering a few surprises as a result.

Over the past several years, she has gained new insights into the structure, physiology and microbiology of corn roots by studying how they grow out in the field, rather than how they develop in the lab.

"Almost all of the information in textbooks about the structure of roots is based on anatomical studies of the first primary root that comes out in seedlings a few days old in the laboratory," she says.

"In the field however, we find that the root system isn't a conglomerate of roots of this structure. The first roots are different from those produced later on in the season.

"No one had really predicted that for roots."

She tells a fascinating story of the relationship between plant and environment that has previously gone unnoticed.

Simply by shaking the roots gently, rather than hosing them with a high-pressure hose to clean the dirt off, she's found that some roots come out looking very brownish and dry, while others are fat and have a white, glistening tip with a persistent coating of soil.

"As far as I can see, no one has paid a great deal of attention to these differences before," she says.

Professor McCully has discovered an incredibly interesting community around the root tips.

"The plant produces a mucilage which it pushes out through the root into the soil, where it is in turn used by specific microbes living there," she explains.

Not just any passing microbe gets to live there though, says Professor McCully, because the plant also produces antibiotics to dictate which microbes are present. What it wants are microbes rich in the property of fixing nitrogen.

As she explains it, animals and plants cannot use gaseous nitrogen, although certain bacteria are able to take it and convert it to nitrates or ammonia which plants can use. This property in microbes is called nitrogen fixation.

Professor McCully found that plants are actually sending carbon into the soil to nourish a community of microbes.

"It turns out that five percent of the carbon which arrives at the root from the shoot is actually put out into the soil," she says.

"The microbes fix nitrogen using the extruded carbon compounds as sources of energy. What you have is the plant supplying the microbes with carbon so they in turn can supply it with nitrates."

Another "tremendous surprise" of her studies has been the discovery that the older, brownish roots, previously thought of as dead and non-functional, were in fact alive, secreting carbon in to the soil, and active in nitrogen metabolism.

"We've found different microbes associated with these roots," she says. "We don't know what they're doing there yet. The idea that there would be different microbes in different parts of the root system is a new one."

Her findings have come about through collaboration with two other scientists, who supplement her own expertise in the area of plant structure and histo-chemistry.

The studies of the micro-organisms have been undertaken by Dr. Margaret Gochnauer, a bacteriologist. Her work with Dr. McCully, sponsored by the Natural Science and Engineering Research Council, has focused on identifying and characterizing the nitrogen-fixing bacteria in different regions of the root.

Martin Canny (1) with student assistant Gerry St. Aubin examine corn roots from field in Central Experimental Farm.

"That's new, no one has attempted to do this before with plants in a temperate zone," says Professor McCully.

Dr. Martin Canny, a physiologist from Australia, is also working with her on a year's scholarship sponsored by the Association of Universities and Colleges of Canada.

"He's a world authority on tracing carbon in plants," says Dr. McCully. "That's very important to us because we want to know what's happening with the carbon going down to the root, what is the root's role in the metabolism of the plant."

His work led to another surprise finding.

"We applied radioactive carbon-14 to the surface of a leaf on a nice, sunny day so that we could trace where it went," says Professor McCully.

"Within seconds, the carbon was absorbed and made into sugar. One of the amazing things we found was that the carbon reached the root system within two hours. That's incredibly fast."

Her studies are changing scientists' basic understanding of plant functions.

"Previously, we thought nitrates were carried up by water to the leaves where they were converted into amino acids," says Professor McCully. "Now we know this isn't true.

"When you follow carbon going down to the roots, you discover it is hooked onto nitrogen and made into amino acids in the roots. This then goes back up the plant. The corn is continually cycling its carbon at a tremendous rate."

Her findings may also have an impact on how corn hybrids are developed.

Hybrids now demand super fertilized soils to survive, explains Professor McCully.

"There's never been an attempt to select corn which has an efficient relationship with its root bacteria. We didn't know about it.

"Corn breeders are going back to improve that relationship."

At a more general level, she adds "If you're going to manipulate plants for the benefit of man, you have to know how they work in the environment.

"In this age of biotechnology, where you want to manipulate plants and their associated microbes, it's crucial that you really know what's going on."

ALUMNI WEEKEND 85
OCT. 18-20

Friday, October 18

Alumni Association Annual Meeting/Reception
7:00 p.m.
Arts Faculty Lounge
20th Floor, Arts Tower
The annual meeting will be followed by award presentations and reception (cash bar)

Geography Alumni Dinner
In honour of retiring professor of Geography, Gordon Merrill
7:00 p.m.
Delta Inn, Ottawa
Tickets $27.00
Reservations: Judy Katz, Department of Geography (564-3616)

Ravens vs. Alumni Basketball
Old Timers Game — 6:00 p.m.
Raven Game — 8:00 p.m.
Carleton University Gymnasium
Admission free

Public Administration Alumni Reception
5-7 p.m.
Senate Lounge
6th Floor, Administration Building

CARLETON UNIVERSITY
ALUMNI ASSOCIATION

Saturday, Octobe

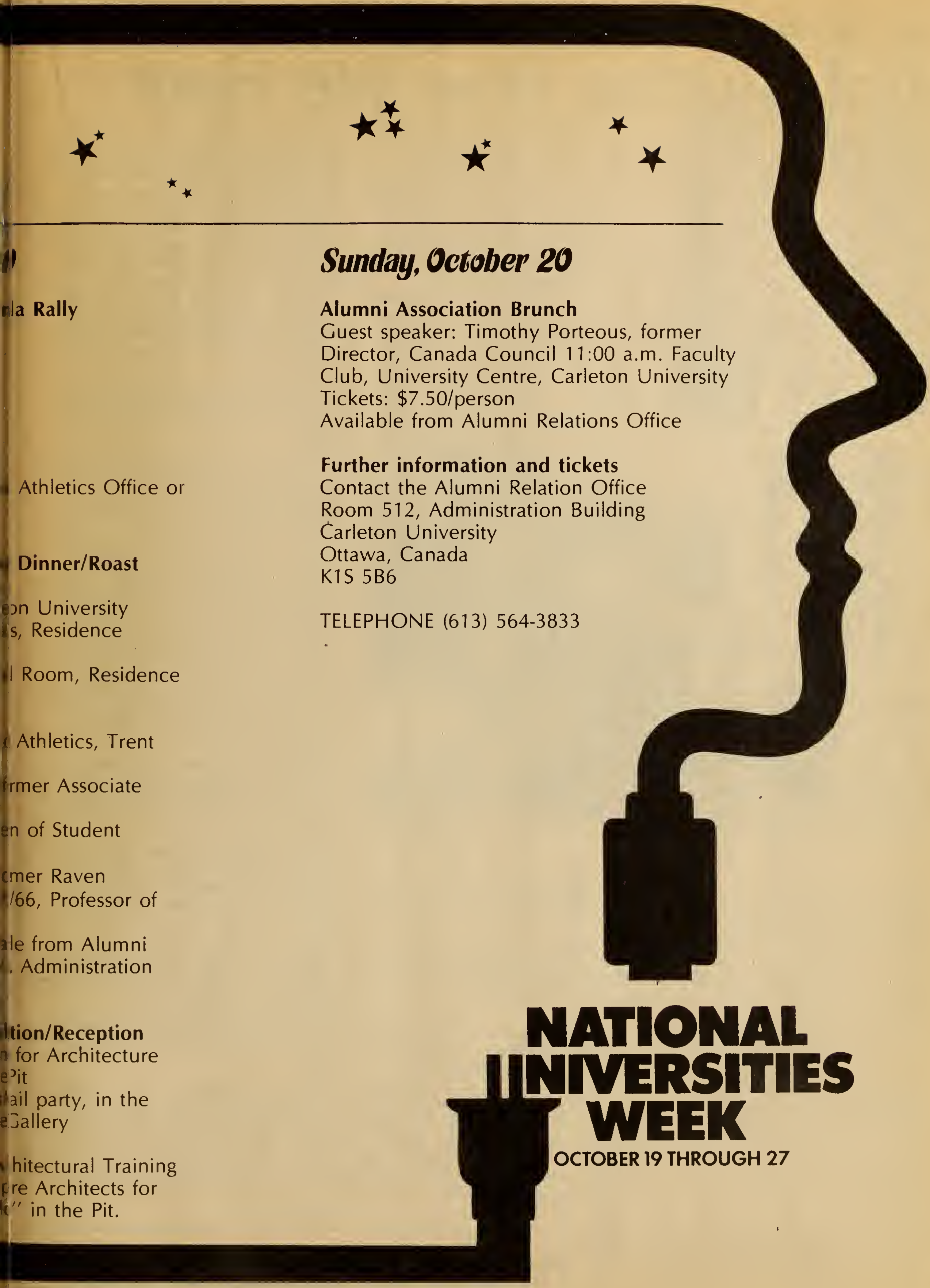
Old Crow Burgers/Pre-
11:30 a.m.
The Fit Stop
Athletics Complex

Panda Game
1:00 p.m.
Lansdowne Park
Tickets $4.50 available
Alumni Office

Alumni Association An
In honour of Keith Har
Director of Athletics, C
Reception: 7 p.m. The
Commons
Dinner: 8:00 p.m. The
Commons
Guest Speakers:
  Paul Wilson, Direct
  University
  Kim McCuaig, BA/6
  Director of Athletic
  Norm Fenn, former
  Services
  Jeff White, B.Eng/6
  Joe Scanlon, BJ/55,
  Journalism
Tickets: $25/person, av
Relations Office, Room
Building, (613) 564-38

Architecture Alumni E

12 noon	Annual me alumni, in
2:00 p.m.	Exhibition/ Michael C
3:30 p.m.	Workshop: "Tradition Does Not the Real W



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Sunday, October 20

Alumni Association Brunch
Guest speaker: Timothy Porteous, former Director, Canada Council 11:00 a.m. Faculty Club, University Centre, Carleton University
Tickets: $7.50/person
Available from Alumni Relations Office

Further information and tickets
Contact the Alumni Relation Office
Room 512, Administration Building
Carleton University
Ottawa, Canada
K1S 5B6

TELEPHONE (613) 564-3833

Prof Studies How We Hear

Carleton psychology professor Brian Tansley is engaged in a study of a fascinating process that most people take for granted: how our auditory system processes speech sounds.

It's a neural process that goes beyond the basic ability to hear sound.

"The mechanisms of the human auditory system that allow us to recognize and understand speech cannot be well studied with the use of conventional hearing tests," explains Professor Tansley.

"Such tests are designed to ask more basic questions, such as 'what is the minimum energy necessary to detect sound at a given frequency?'.

"We know there are many people who show normal hearing on conventional audiometric tests who have difficulty understanding speech. That is, they don't need a conventional hearing aid, but still cannot process speech sounds properly.

Brian Tansley and research associate Vanda Cuccaro set up computer controlled experiment.

"We postulate that this is because at 'higher' levels in their auditory pathway, the neural coding mechanisms involved in the processing of sound patterns are, in some way, not functionally normal.

"Our research is directed towards characterizing these higher processes, measuring them efficiently and correlating these measurements with various types of hearing difficulties — both in hearing impaired people and in people with normal hearing."

To help him discover the nature of these mechanisms, he's enlisted the skills of electrical engineers and computer scientists as well as those of psychologists. He explains that the study of hearing requires an understanding of basic anatomy, physiology and behaviour of the auditory system plus skills in electronics, physics of sound and computer programming.

His reasearch has involved actually analysing the physical properties of speech sounds to develop mathematically 'simplified' sounds as experimental stimuli — sounds that have certain properties that are similar to natural speech sounds — but can be much better controlled.

These simplified sounds are then used in experiments to study the mechanisms of hearing involved in speech perception.

"Using synthetic, simplified sound stimuli makes it possible to study hearing independent of specific language capabilities and meanings", explains Dr. Tansley. "Also, this type of stimulus can readily be generated by our laboratory computers which means that the experiments can be placed completely under computer control."

People who have been tested in his laboratory have ranged in age from under three to over ninety; with a range of hearing abilities from normal to severely impaired.

Typically, people are tested in small sound-proof chambers to prevent laboratory noise from interfering with the subject's sensitivity. Stimuli are presented through earphones and subjects' responses are obtained from a computer terminal keyboard in the chamber. The computer screen, which contains instructions for the subject in the experiment, is placed outside the chamber and viewed through a window.

The results of these studies have been intriguing.

"The repetition of certain sounds and sound patterns can change one's hearing sensitivity in specific ways", says Professor Tansley. "Unlike the generalized loss of auditory sensitivity experienced after exposure to loud sounds (known as a 'temporary threshold shift' or 'TTS'), repeated exposure to the stimuli used in these studies results in a temporary loss of hearing that is quite specific to only certain sounds and not others.

"We call this phenomenon 'selective adaptation', to distinguish it from the unselective or general losses of auditory sensitivity that are suffered after exposure to loud sounds."

He has found that certain aspects of this selective adaptation phenomenon appear to be specific to speech and speech-like sounds.

"In some of our studies we have found that selective adaptation occurs in all normally hearing individuals from very young children to people in their nineties", says Dr. Tansley.

The rate at which individuals selectively lose their auditory sensitivity during adaptation is relatively slow, while the rate of recovery of this sensitivity after exposure to the adaptation stimulus is relatively fast in normal-hearing individuals. On the other hand, individuals with various types of hearing difficulties do not always show this type of pattern. Some, for example, will take less time to adapt and more time to recover — just the opposite to the normal case.

"We believe that these 'higher' auditory mechanisms are important to understanding speech perception and the perception of complex sound patterns in general," he says.

At a fundamental level, Professor Tansley hopes these studies will lead to a better understanding of how the brain codes auditory information.

But there may be practical results as well.

Professor Tansley is working on the development of a series of new hearing tests which could be used to diagnose hearing disorders in a clinical setting. "What works well as a research test may be totally inappropriate in a clinical setting", he says.

"In my experience, it is never a simple matter to take basic research data and convert the knowledge directly to a clinically useful setting. There are often many intermediate stages between basic and applied research of this type that have to be carried out to bring the ideas to a useful application."

For his work in vision and hearing research Professor Tansley has been named a National Health Research Scholar by Health and Welfare Canada.

The scholarship, effective for a five-year period, enables him to devote full-time to his research, without an undergraduate teaching load and with reduced administrative responsibilities.

He collaborates closely with researchers in the Ottawa area as well as from other universities in Canada and the U.S. Professor Tansley also works on the Allied Scientific Staff of the Ottawa Civic Hospital, as co-director of the Visual Function Laboratory.

Funded by a wide variety of sources, including the Natural Science and Engineering Research Council, the Medical Research Council as well as numerous private and public agencies, his research seems unusual for a psychologist. But in fact, he says, "it's mainstream experimental psychology."

"The very first experimental psychologists (experimental psychology was founded in the late 19th century in Europe) were initially trained in physics, mathematics and medicine," he says. "They were interested in studying the relationship between the physical world and human experience of that world and began their studies by considering the effects of stimuli upon sensory mechanisms, such as the relationship between light and vision and between sound and hearing.

"Much of today's modern experimental psychology is based upon what these early scientists found and on how they approached the brain/behaviour problem."

But the dramatic technological advances of recent years has meant that modern psychologists can now study brain function with much greater precision. "Experimental research in vision and hearing is a particularly challenging area for psychology and engineering students alike," says Professor Tansley. "At the outset, each has insufficient knowledge to do the work on his or her own, but working together, students from several disciplines can often combine the skills that are needed.

"One of the advantages of being a Research Scholar is the opportunity to devote more time in the laboratory with students. Although I enjoy teaching in a lecture format I really value the opportunity to work with students on research projects in the laboratory. It's a different kind of 'teaching' — one where we all seem to learn a tremendous amount together," he says.

In the past five years Professor Tansley has supervised one Ph.D. student, three Master's students and six honour's students in psychology, sixteen engineering students on their fourth year projects and one student in the Integrated studies program.

"I think that the possibilities that emerge from the mixture of students from various disciplines the skills they bring from these disciplines is one of the real strengths of our university," he says.

Law Education, CU Style

Possibly one of the most exciting developments in law education in Canada is happening right at Carleton.

The Department of Law has just restructured its curriculum to develop a program that's more self-contained and less service-oriented.

Says the Department Chairperson Dorothea Wayand, "We're not a law school interested in training lawyers. We're a department within a social sciences faculty that sees law as an instrument of social co-existence which can be studied in its own right as are economics, political science, sociology and so on."

That's exactly the approach recommended in a study of law education in Canada undertaken by the Social Sciences and Humanities Research Council. In their 1983 report, *Law and Learning*, the authors of the study note, "We strongly support the development of a vigorous component of legal education identified with the humanities and social sciences.... It relieves the subject of its professional training connotations, facilitates integration of legal study and research with parallel activities in other disciplines, and recognizes that law ought to be understood by and subject to the scrutiny of as many citizens as possible."

It's also a philosophy that's wholeheartedly endorsed by the department's alumni.

In a survey of alumni conducted by Imelda Mulvihill, the Research Officer of the University's Office of Planning Analysis and Statistics, an overwhelming number of respondents said they would take the program over again, with 96 percent indicating they would recommend it to a friend.

Among alumni who went on to a law school, 78 percent thought it was advisable to take an undergraduate program in law for reasons such as: it provided a good background, especially when combined with another degree; it was a good way to determine interest; it provided an understanding of the social context of law; it was a good introduction to legal concepts.

The survey found that graduates were employed in a diverse range of occupations, from upper and middle-level management positions in government and industry, teaching, and practising law or working in law-related fields. Most said they found the program helpful to getting a first job, and then in moving up.

Carleton's program is the oldest and largest of its kind, and is growing in leaps and bounds. More than 1,000 students from across the University now register for the introductory first-year law course, which lays the foundation for the department's new curriculum.

Dorothea Wayand.

"In first year, we try to concentrate on the Canadian system of law, to give students an understanding of what function law has in society, and how it interacts with other social organizations," explains Professor Wayand.

Higher level courses range from a general overview of private law relationships, law and antisocial behaviour, and public law in second year, to seminars on specific subjects such as landlord-tenant relations, contract, tort, constitutional, and international law in third year.

By fourth year, the program focuses on legal philosophy and comparative law, as well as human rights and native law, and other areas.

The department, which traces its origins to the early 1960s, still hasn't lost its inter-disciplinary orientation. It has close connections with International Affairs, Journalism, Sociology and Anthropology, and even Engineering, says Professor Wayand.

It also attracts leading experts and professionals from the broader community to lead seminars on specific topics. Professor Wayand notes members of the Law Reform Commission teach as sessional lecturers in the department.

She sums up the department's program by saying, "We've managed to develop a philosophy that we feel is right, in spite of the fact that we've often been considered as a half-time law school.

"We don't want to be like other law schools. We know there are more and better things than simply providing skills and being a trade school.

"We try to teach undergraduates that law is not a perogative of a specialized group of people, but that it's up to everyone to know what's right and wrong, and to be able to analyze legal concepts. In just the way that others teach economics or psychology, we've tried to teach law as another facet of life in our society."

Building for Excellence

There's a new look to the campus these days.

A research building is under construction next to the Loeb Building; a floor has been added to the Herzberg Building; the Library has a new exterior; and the Arts Tower is in the process of getting a new exterior.

And it's just the beginning.

Carleton's Vice-President (Planning) David Brown says that a floor will be added to the Architecture Building, and additional space provided for the Library within the next four years.

In the longer term, the University is planning a new building for advanced engineering studies; an extension to the Library; a building for fine arts studies; and more research space for science.

If all projects are approved, the final tally could add up to some $40 million, funds that the University will be looking to raise from both the private and public sectors. A feasibility study has already been launched to assess the potential response to such a major capital campaign. In the meantime, the University has committed more than $2 million of its own funds for the current projects.

The new and proposed capital projects are a reflection of Carleton's evolution, says Dr. Brown.

"We are embarking on them to fulfil our mandate as defined in the University's Act," he says. "We believe there is a need for these facilities, and we want to demonstrate to the community that we are prepared to the fullest extent possible to put our own resources behind them."

More than a decade has passed since any new buildings were constructed on the campus. But throughout this period, the teaching and research activities of the University have continued to expand (see chart).

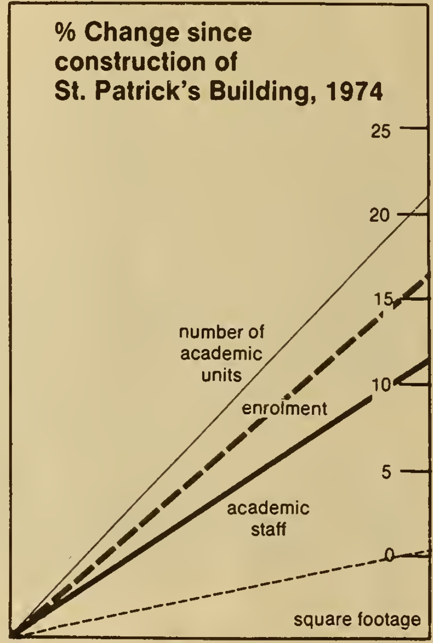
While the University has done its utmost to fit students and researchers into existing space, this year it reached a threshold: either turn away more students and research contracts, or build more space for them.

After looking at the options, the President and the Board of Governors decided that in order to meet its educational objectives, the University had to go for more space.

The first completely new building to go up on the campus in more than a decade is the Social Sciences Research Building, now under construction next to the Loeb Building. When it is completed later this fall, it will house 11 research units from the Faculty, including:

- Centre for High Technology Management
- Sensory Neuropsychology Laboratory
- Sleep and Dreaming Laboratory
- Centre for Immigration and Ethno-Cultural Studies
- Centre for Policy Studies
- Automation Research Group
- Centre for Communication, Culture and Society
- East-West Project, and others.

Faculty Dean, Dennis Forcese, says the new building will enable researchers to integrate staff in ways they couldn't before. "It should translate into better quality research, and greater continuity in research programs," he says.



% Change since construction of St. Patrick's Building, 1974

He explains that social science research increasingly consists of teams of researchers, rather than individuals working on their own. As well, their work results in the accumulation of documentary material from survey research, lab records, and so on.

"The notion that you could stick researchers into any available nook or cranny — which is what we have been doing — is not practical today," he says.

Dean Forcese notes with pride that Carleton is a leading centre for social science research in Canada, and has built a reputation for work in both applied and policy areas. As well, he adds, the University has always integrated its teaching and research programs.

For him, the new Social Sciences Research Building represents a reaffirmation of these traditions. "The new facilities should help us to attract and retain quality academics, to maintain our first-rate graduate programs, and to keep the University at the cutting edge of research in the social sciences," he says.

In the Faculty of Science, the addition of a new floor to the Herzberg Building this summer has transformed the space situation "from impossible to viable" says Dean of Science James Neelin.

The new floor mainly houses offices and research labs for the School of Computer Science (see separate report).

"The School of Computer Science is the most explicit demonstration of our commitment to provide people trained to participate in the growth of the high technology industry," says Dean Neelin.

Established in 1980, the School already rivals in size some of Carleton's long-established schools and institutions. It has an undergraduate enrolment approaching 300 students, and is aiming for graduate enrolment of 40 students.

But its phenomenal growth has had an exacting toll within the Faculty, particularly the Department of Physics.

Not only would the School have been unable to manage without the additional space, notes Dean Neelin, "but it would have been impossible for the Department of Physics to hold its own, let alone expand in such areas as the physics of modern technology, where there has been increasing enrolment."

He says that the School of Computer Science is only one of many indications of a vigorous research and teaching program in the Faculty of Science.

"In terms of quality of research, we're in excellent shape," he says. "We are a research-oriented Faculty, and we've managed to deliver."

He points to work in probability and statistics, laser spectroscopy, high energy physics, and cell biology, as areas in which the University and its researchers have gained national and even international recognition.

The Faculty of Engineering has another year to go before it will gain some much-needed space, but it already has plans for it.

Faculty Dean, Spruce Riordon, says that a new floor to be added to the Architecture Building will be used principally for fourth-year design classes and research laboratories. Drafting rooms will also be moved to the new floor, and the space left behind will be used to house more computer terminals and to provide additional space for research.

The increasing use of microcomputers has greatly enhanced the research and teaching capacities of the Faculty, but at the same time has exacerbated the space problem.

"Microcomputers are increasingly being used in the undergraduate program," says Dean Riordon. "But together with some several large research grants we've received, it's meant that we've become very short of space."

He's particularly proud of the Centre for Advanced Studies in Computer Aided Design and Engineering (CASCADE), which is aimed at developing better computer engineering design techniques. But as well, he notes the Faculty is using computers for CAD/CAM, and even Computer Integrated Manufacturing, using the "just-in-time" model developed in Japan rather than traditional North American stockpiling methods.

The Faculty is known for its common-core philosophy in undergraduate teaching, an approach that was thoroughly endorsed by its graduates in a recent survey.

At the same time, Dean Riordon notes the Faculty has established strengths in specific areas such as structural engineering, aerodynamics, transportation, gas turbines, electronics, computing, and telecommunications.

With more than 1,000 undergraduate students enrolled in engineering, Dean Riordon says the Faculty "has reached a critical mass. To expand in any area, we need more space."

Accordingly, the University has placed a high priority on a new building to house a Centre for Advanced Studies in Engineering, to allow for expansion and to strengthen the Faculty's already well-developed links with the engineering industry in Ottawa.

Almost at the opposite end of the academic spectrum, but also high on the University's list of long-term projects is a Centre for fine arts programs.

Dean of Arts Naomi Griffiths explains that Carleton has already established a unique niche for itself insofar as fine arts studies are concerned.

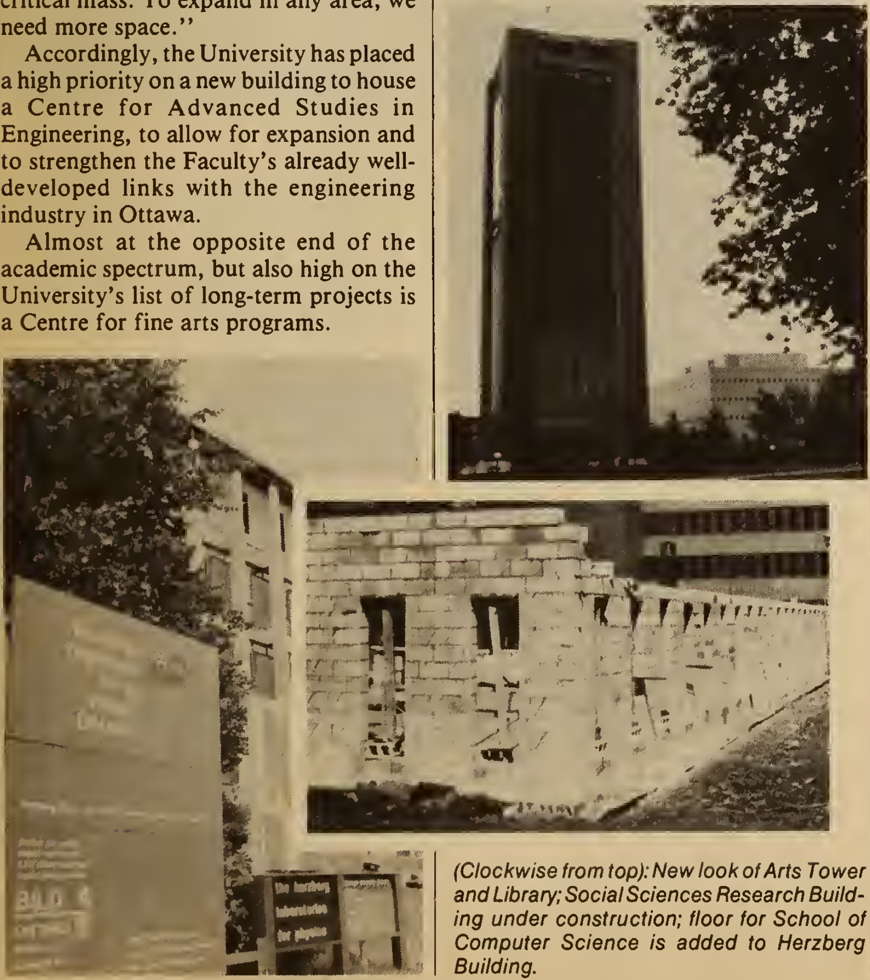
"From the very beginning, we've looked at this as an area of intellectual analysis within a framework of historical, theoretical, and critical enquiry, with emphasis on Canadian content," she explains.

"I know of no other university that has taken this appraoch with its fine arts programs."

While the Faculty has not required the specialized space needed for the arts, the space it does have is "absolutely crucial" to its programs, says Dean Griffiths.

"Film Studies doesn't show what it has as often as it needs to," she says. "Music students practice in the lavoratory... Art History knows the University has a fine collection of Canadian art from the '30s-'70s, and would like to use it in its teaching program... and so on."

Whether it's Dean Griffiths describing her vision of the Faculty of Arts, or Dean Neelin highlighting the accomplishments of the Faculty of Sciences, it's obvious that the University not only has a new look, but also a new outlook. There's an attitude of confidence and enthusiasm for the University and its achievements as it looks forward to the next decade and beyond, to the Year 2000.



(Clockwise from top): New look of Arts Tower and Library; Social Sciences Research Building under construction; floor for School of Computer Science is added to Herzberg Building.

Computer School Surpasses Plans

Like a rocket, computer science has taken off at Carleton University.

Fuelled by an almost insatiable demand for its program (there were once 2,200 applications for 65 first-year places), the School of Computer Science has grown at a phenomenal rate since it was established just five years ago.

Enrolment is approaching 300 undergraduates — almost double the number originally planned; the number of faculty has increased from one full-time professor to 12; and from a few scattered rooms, the School is now housed in a new floor, plus one existing floor of the Herzberg Building.

And the School was given an added boost this summer by the donation of more than $100,000 worth of equipment from Apple Canada Ltd.

It's an impressive start by any standard, and one that has given the whole University a lift. Says the School's director, Frank Fiala, "We can compete with any university in Canada in terms of quality of our program."

When Carleton's computer science program was developed in the late 1970s, such programs had already been in place elsewhere for 10-15 years. But this turned out to be an advantage for the University.

"Because computer science is evolving so fast, we could learn from the experience of our predecessors," says Professor Fiala.

"We designed a curriculum that tries to avoid the pitfalls others had to struggle through. Our program relies heavily on curriculum proposals from two learned societies — the Association for Computer Machinery and the Institute of Electrical and Electronics Engineering — and builds on Carleton's own experience."

The program is very interdisciplinary in nature, he says, and includes a common core of computer science and mathematics courses, plus five optional areas of study: hardware, software, scientific applications, theory of computing, and management and business systems.

Overall, he says, the objective of the School is to train people how to use computers, rather than how to build them.

"The computer is a tool capable of doing different operations capably and efficiently in different areas of application, whether it's banking, administration, planning, traffic control, police, manufacturing, or any other application.

"It requires someone to use the computer in a particular environment — that's the person we're trying to provide."

That philosophy seems to proving itself in the marketplace so far. All of the school's graduates have landed goods jobs or gone on to graduate school, says Professor Fiala.

Church Music Course Popular

This summer, almost 60 people came to Carleton from as far away as Pembroke and Winchester for a course that wasn't even listed in the University's calendar.

"Tools and Techniques in Church Music" was the title of a six-week course sponsored by the Royal Canadian College of Organists, in co-operation with the University.

The course contents were developed by the RCCO; registration and administration were handled by the University's School of Continuing Education.

Regina Aulinskas, Assistant Director of the School says a variety of such specialized courses are held at the University each year.

"It's a service we provide to community groups," she says. "It brings people to the University, makes use of our resources, and shows that we are interested and willing to respond to the specialized educational needs of the community."

Carleton alumnus, Barclay McMillan (BA/73, BMus/74, MA/83), organized the course for the Royal College of Organists. He was delighted by the response.

"We hoped we would get 20 people," he said. "We would have broke even with the low 30s. In the end, 59 people took the course. And there was something like a 90 percent turnout for every class."

The course consisted of lectures and workshops designed to be useful to organists in planning and carrying out all aspects of their church's music programs, choral as well as organ.

The former host of CBC Radio's *Mostly Music*, Mr. McMillan says he first began to plan the course about four years ago, when he was chairman of the Ottawa Committee of the RCCO.

"Since I didn't have an organ, or an organ position, I took the opportunity to go around from church to church to see what organists were doing," he recalls.

"There seemed to be a need not so much for training in organ playing — there was a great deal of high-level performance — but there was a need for general upgrading and background in church music as distinct from performance.

"We began to do some brainstorming about the sort of course that might be of particular use to people working in churches, and shared our ideas with David Piper, then chairman of the Music department."

Mr. McMillan says Professor Piper supported the idea of the course and suggested a meeting with Faith Gildenhuys, then Director of the School of Continuing Education. That led to the decision to organize the course at the University.

Doreen Acres practices on organ at St. John's Anglican Church.

Added impetus came when the RCCO was able to establish a fund for educational purposes from the profits of a national convention held in Ottawa two years ago, said Mr. McMillan.

"It was interesting to see the course develop and come together from the input of so many people," he says. "It really represented the converging of different initiatives into something greater than the sum of the parts."

Mr. McMillan first came to Carleton as a student in the 1950s, then left for a career in broadcasting and the Navy. He spent 10 years as manager of CBC Radio in north Germany for the Canadian Armed Forces, and in the early '70s decided to come back to Carleton to finish his degree.

"I have a great deal of affection for Carleton," he says. "Naturally, when I began to think about this course, I thought in terms of holding it at the University.

"The appeal of having pleasant surroundings in an atmosphere dedicated to teaching, such as the studio in the Music department provided, seemed like a very good idea.

"The idea of having the University look after details of registration, advertising and promotion — all that sort of thing where we were amateurs — meant that registration would be smooth and efficient.

"I was just delighted by everything. The Music department provided excellent facilities and first-class co-operation, right down to making an office available during the course itself.

"It's been a very pleasant experience."

The course dealt with topics such as service planning, hymn playing, organ construction and maintenance, organ repertoire and choral repertoire and technique. There were 10 instructors from churches throughout the city.

In addition to the classes, five hours of private organ lessons were offered to members of the RCCO to reinforce instruction during the course and to increase repertoire.

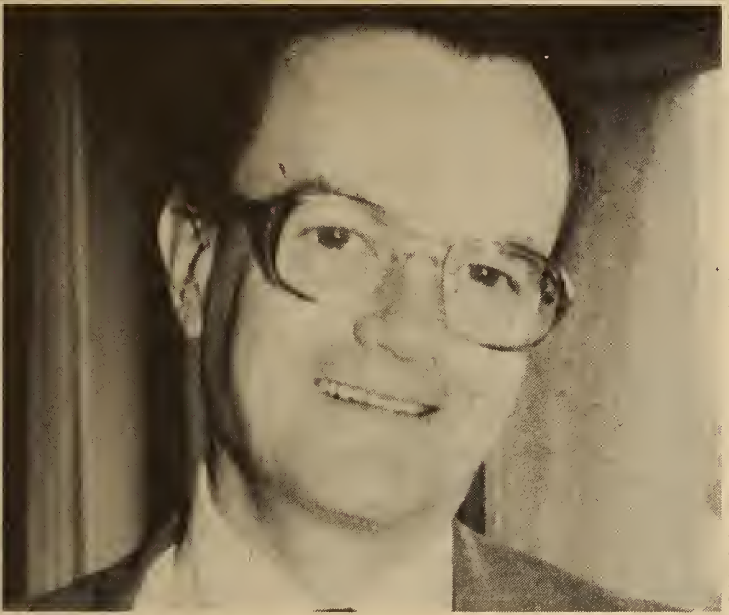
Doreen Acres of Winchester was one of the people who took the course. She's been playing the organ for 38 years, and is the organist at two churches in Vernon.

The course was brought to her attention by her sister-in-law who is post-mistress in Winchester, she says. "It sounded like it would be interesting, something different."

She didn't miss a class, and also took the additional five hours of practice. "The distance doesn't amount to anything if you really want to get to something," she says.

CU Grad Heads Stats Canada

Ivan Fellegi, Canada's Chief Statistician, is a significant person in Carleton's history.



Ivan Fellegi

In 1958, he was the first student to receive a Master of Science degree from the University, and in 1961 became Carleton's first PhD graduate.

Born in Hungary, he came to Canada during the revolution of 1956, choosing Ottawa because it was where his sister lived. He had completed three years of study at the University of Budapest, and says he wanted to continue his studies here.

"Being a new Canadian, having a formal degree meant a great deal to me," he says.

He recalls that he met with Professor Jack Macphail, then chairman of Carleton's Mathematics Department and, later the first Dean of Graduate Studies.

"I provided him with an assessment of courses I had taken," says Dr. Fellegi. "We compared it with the calendar, and it seemed I had taken all the relevant courses for a BSc, though I didn't have the diploma yet.

"Dr. Macphail was extremely kind, and more important, the University was flexible enough to consider me on merit as opposed to formal paper qualifications," says Dr. Fellegi.

"There was a comprehensive examination conducted by what was probably most of the Mathematics department at the time — three people or so.

"I remember I had butterflies in my stomach because my English wasn't all that great. I crammed for about two weeks . . . the exam was very friendly but very thorough . . . then Dr. Macphail told me he would be pleased to have me as a student for my Master's."

Being the only graduate student in a new program didn't bother him, he says. "Basically, it felt very good.

"Everybody was very kind. There weren't any formal stand-up lectures, but rather prescribed reading and discussion. I benefited a great deal from that kind of personal attention."

He received his MSc degree from Carleton while it was still located on First Avenue, then came to the new campus for his PhD.

He was the only PhD student in the department, but again, he says "The fact that I was the first one at the University didn't mean that much to me, except for the advantage of very personalized attention."

He studied at Carleton while working at a semi-professional job at what was then the Dominion Bureau of Statistics. He notes, as an aside, that he was hired there by Doug Dale, who would later join the Mathematics Department as a professor.

Dr. Fellegi became the Director of Sampling and Survey Research Staff in 1961; Director General of the Methodology and Systems Branch in 1971; and Assistant Chief Statistician of Canada in 1973. Since 1984, he has been Deputy Chief Statistician.

Despite his vast experience within the department, he says he "frankly felt awestruck" when it was announced this summer that he would be Chief Statistician, effective September 1, 1985.

"It's an awesome responsibility," he says. "Even a lifetime of preparation is not quite enough. It's a very big challenge, and I remember feeling more conscious of the responsibility involved, rather than great elation and joy."

He says the department "makes an enormous contribution to Canadian life by basically providing a mirror in which society can view itself.

"As such, I think it helps to enliven democratic public debate. The discussion of issues is more focused if it takes place within the framework of objectively measured and quantified phenomena."

There's been a very thorough acceptance of the role of Statistics Canada during the post war years, he adds. "In that period, there was a tremendous expansion in the attention paid to social and economic issues, and people put a lot of faith in society's ability at least to control if not substantially influence these.

"This in turn had its counterpart in demands for very vast areas of data which would help in social monitoring and policy development."

He doesn't foresee any fundamental changes in the direction of the department. "We will continue to emphasize the public service aspect of our work, the social benefits of it, while trying to maintain the highest possible levels that we know of scientific excellence and objectivity."

Credibility is crucial, he says, because without it, statistical information loses its value. "After all, few people or organizations can actually verify directly the information we provide — just as few people can replicate scientific experiments reported in learned journals. They accept on the basis of the reputation of the journal or of the scientist."

Heading a department in a time of fiscal restraint is no easy task, he concedes.

"Every department is in the situation of having to cut programs," he says.

"Obviously, it's a different kind of excitement to build up programs than to streamline. At the same time, I believe that in a period of retrenchment, there's a need for even more insight and wisdom than in a period of expansion.

"In some respects, there are bigger downside risks in making the wrong decision in a period of downsizing. There's potential for long-term hurt to the institution if the leadership makes the wrong choices and follows the wrong approach in terms of human relations.

"The challenge is very different, but no less demanding."

The father of two daughters (both of whom are now medical students at the University of Ottawa), he says he enjoys spending time with his family, as well as photography, music and some travel.

In addition, he says, he likes to swim, bicycle, and ski cross-country.

His Carleton theses reside in the University's Library along with all others that followed. Their titles: "The Effect of a Sample Rotation Method in a Contininuing Probability Sample" from 1958; and "Sampling without Replacement in Probabilities Proportional to Size" from 1961.

Alumni review past editions of the Ravens yearbook at Spring Fling in Toronto.

Toronto Alumni

by Chris Cummings, BJ/75

The first event organized by the Toronto Carleton Alumni Association, a "Spring Fling" cocktail party held May 23, was a great success.

More than 100 graduates and spouses came to the party, which took place in the plush surroundings of the Stop 33 lounge atop the Sutton Place Hotel.

The grads enjoyed reminiscing about old times at Carleton over hors d'Oeuvres and drinks. Entertainment included background music provided by a pianist, and a contest that challenged grads to display their knowledge of CU (everyone's favourite question: is it true that a member of student council proposed in 1977 to lease an airplane to shuttle Carleton students between Ottawa and the Caribbean. The answer: yep.)

Profits from the occasion were earmarked for the Carleton University Alumni Fund.

Jean Teron, then chairperson of Carleton's Board of Governors and an alumna of the University, presented a welcoming speech. Grads were also welcomed by two of the organizers, Micheline McKay and Christopher Henderson.

The organizing committee of the chapter planned a get-together at a Toronto Blue Jays baseball game as its second event. It was originally scheduled for August 7 — the only day of the infamous baseball strike. The troops rallied, however, and did get out for a game later in September.

In an effort to help prospective Carleton students, a number of alumni in Toronto organized a telephone campaign that involved calling Toronto-area applicants to answer questions they had about Carleton or Ottawa.

In view of the success of the Spring Fling, the chapter plans to hold another function for grads soon. Interested grads should call Micheline McKay at (416) 485-7246.

NPSIA-AA

By Randle Wilson, Secretary, NPSIA-AA

The Norman Paterson School of International Affairs Alumni Association (NPSIA-AA) was formally constituted in May 1984.

Since that time, it has sponsored a number of events, including a talk by the Hon. David Macdonald, Special African Relief Coordinator, on the crisis in Africa; a panel discussion involving Members of Parliament from each federal party on foreign investment in Canada; and a series of monthly luncheons at which alumni discuss subjects of interest with which they are personally and/or professionally familiar.

Mr. Macdonald's presentation on "The African Crisis: Development and Famine" followed a short business session at the Annual Membership meeting in April.

His talk highlighted Canadian efforts to alleviate famine suffering, and the future activities of his office, in the light of the recommendations released by the Parliamentary Committee in response to Macdonald's own report.

In the question and answer period which followed, the audience posed difficult questions about the Government's continued commitment to Africa, given the cuts in aid expenditures.

In June, the NPSIA-AA sponsored a panel discussion on foreign investment in Canada involving several Members of Parliament. It was held at the Pearson Building, headquarters of the Department of External Affairs.

The panel members were: Mr. Murray Cardiff, Deputy Chairman of the House of Commons Committee on Regional Development (Progressive Conservative); Dr. Steven Langdon, NDP critic for regional industrial expansion (also a former Carleton and NPSIA professor); and the Hon. Lloyd Axworthy, Liberal critic for regional industrial expansion. The moderator was Duncan McDowall, who is a senior research associate at the Conference Board of Canada, and an expert in the field of foreign investment policy.

The meeting was open to the public and attendance included faculty members, Conference Board staff, members of the Department of External Affairs, and students and alumni of the NPSIA.

The discussion exposed in stark contrast the Government's view of investment as an engine of economic growth and the opposition parties' perspective that foreign investment should not be seen as a panacea and that investment plans should be reviewed to ensure their benefits are maximized.

The monthly luncheon program was started in 1983 on a social basis; more recently, its format has been changed to include a short talk by an alumna/us on an international affairs topic to stimulate discussion and debate. Subjects covered so far include the Ethiopian crisis, the Green Paper on Canadian foreign policy, Canada's role in the U.N., and Canada's international agricultural policies.

The NPSIA-AA has also undertaken a fundraising campaign with the assistance and cooperation of the Carleton Alumni Office. Alumni responded generously with donations of some $1,500.

The executive of the NPSIA-AA for the year 1985-86 consists of: Gord Jansen, now Acting President (replacing Glen Bailey who resigned in September after being transferred to London); Norm Hall, Vice-President; Peter Marwitz, Treasurer; and Randle Wilson, Secretary.

The executive intends to continue with these types of activities, including a special event to commemorate the School's 20th anniversary. They are assisted by a number of school alumni, as well as NPSIA faculty and staff, who have been generous with their time and money in setting the Association on its feet and organizing events and activities.

Any alumnus/a (graduate or former student) who wishes to participate or assist in alumni activities, can contact the school (564-2693) or an executive member for information.

Alumni and faculty of the School of Architecture got together for a baseball game this summer.

Through the Years

Information in this column is obtained through submissions from alumni and from news clippings. If you're interested in contacting any friends or classmates, simply enclose your letter in a stamped, sealed envelope with the person's name on it. We'll complete the address and send it on for you.

53

Martin Marcus, BSc/53, of Marcus & Associates, a patent and trademark practice, merged with the company of Burke-Robertson, Chadwick & Ritchie, of Ottawa, effective March 1, 1985.

55

Pat Addelman (Nichol), BA/55, was elected President of the Women's Club at the State University of New York at Buffalo. Pat served as chairperson of the past two International Friendship Days at that university, and has also been elected Director of the Federation of Women's Clubs, and will serve as Scholarship chairperson for that group of 71 affiliated clubs.

59

Gordon Pape, BA/59, was recently appointed publisher of the Hume Publishing Company in Toronto, Ontario. Gordon can also be heard weekly on CBC Radio, commenting on personal financial matters.

61

Elihu Edelson, BEng/61, who also holds a masters degree in Electronic Engineering from Carnegie Tech., in Pittsburgh, was appointed General Manager of Le Centre du Son, an Audio/Video equipment store in Ottawa, Ontario, in March 1985.

Armin Hecht, BJ/61, lives in Smoky Lake, Alberta and is a freelance writer-photographer. Armin is the author of *Prince Rupert — a Northwest Passage for Prairie Grains* (Westglen Publications), about the nation's newest and most modern grain terminal.

62

Brian Crammond, BA/62, and his wife Marion, are living in Dallas, Texas, where Brian has established his own corporation, The Brimond Company Inc., handling income property investments.

Murray Dittburner, BA/62, was appointed Vice-President, Atlantic Region, and Manager of the Halifax Royal Trust Corporation in January 1985.

64

Robert O'Kell, BAHons/64, and his wife, Arlene Young, are pleased to announce the birth of a daughter, Jennifer Emily, on September 7, 1984. Bob currently teaches English at the University of Manitoba.

65

Barbara Fulton, BJ/65, is spending a year travelling and writing in Portugal and Spain, after ten years as Managing Editor Publications at the Addiction Research Foundation, in Toronto, Ontario.

66

Judy Lindsay (Elliott), BA/66, has been named business editor of the *Vancouver Sun*.

John Mark, BEng/66, and his wife **Catherine**, BA/66, reside in Allendale, New Jersey, where Mark was recently appointed President of Steel Structures Corp., a major fabricator/erector of structural steel in the Northeastern United States.

A. Burke Williams, BSc/66, was appointed Director of Retail Sales Tax Branch, Ontario Ministry of Revenue, effective June 3, 1985. Burke lives in Whitby, Ontario with his wife, Jennifer, and they have two daughters.

67

John Bennett, BEng/67, completed his Air War College Course in Alabama, and has been appointed Commandant of the Canadian Forces Recruit School in Cornwallis, Nova Scotia.

Judy Broadbent (Gardiner), BA/67, has been a social worker for the past 13 years. Judy lives in Toronto, with her husband Alan, and their two children, Sam (4) and Matt (2).

Ian McLaren, BJ/67, is currently Director of Distribution at Telefilm Canada, in Montreal.

68

Alf Bristow, BSc/68, was recently promoted within IBM Canada to the position of Systems Analyst on an international development team.

Kenneth Krauter, BEng/68, MEng/77, was recently appointed Chief Executive Officer of Prince Rupert Port Corporation, and will also continue as general manager, a position he has held since 1980.

Louise Rachlis (Vinokur), BJ/68, is the Advertising Features Editor at the *Ottawa Citizen*.

69

Dale Fawthrop, BA/69, BAHons/70, is currently living in Amherst, Nova Scotia, and teaches at a high school. Anyone who wishes to contact him may write to Amherst Regional High School, Box 730, Amherst, Nova Scotia, B4Y 3P1.

David MacGregor, BA/69, MA/74, associate professor and head of the department of Sociology at King's College, University of Western Ontario, recently won the third annual John Porter Memorial Award for his book *The Communist Ideal in Hegel and Marx* (University of Toronto).

Caroline McNamara (Deeble), BA/69, and her husband, **Brian**, BA/71, are pleased to announce the birth of a son, Sean Edward, a brother for Emily.

Dan Mozersky, BA/69, BAHons/70, is the Ottawa proprietor of Prospero Books Limited. Dan also holds the title of National Director of the Canadian Booksellers Association, and is currently Canada's Bookseller of the Year.

70

Thomas Connolly, BA/70, lives in Ottawa, and is a partner in the law firm of Macdonald, Affleck, Cooligan.

James Dubray, MSW/70, recently assumed the new position of Executive Director of Family and Children's Services (formerly Children's Aid Society), for the district of Thunder Bay, Ontario.

71

Wolf Belzing, BA/71, has accepted a call to the First Lutheran Church in Toronto. Wolf is married and has two children, Julie-Ann, born February 1981 and Andrew, born September 1984.

Bryan Crossfield, BCom/71, was appointed to the position of Director, Washington Region, with the Regional Operations Sector of Supply and Services Canada. The position was effective August 1, 1985.

Robert Lister, BA/71, has been a teacher with the East York Board of Education for 15 years. He has also been the tennis director for the Olympia Sports Camp since 1980.

Peter Spurr, BA/71, and his wife **Mary (Lighthall)**, BAHons/80, reside in Cumberland, Ontario, and have one son, John, born 1984. The couple both work for Canada Mortgage and Housing Corporation in Ottawa.

Nancy Wells (Thornton), BA/71, and her husband Doug, are pleased to announce the birth of David William Ralph on August 21, 1984; a brother for Allison (6), and Robert (4). The family lives in Guelph, Ontario, where Nancy is teaching kindergarten.

72

Brenda Boyd (Clelland), BA/72, has two children, and is currently working at the North American headquarters of IKEA, the Swedish home furnishings manufacturer.

Murray Hunter, BA/72, formerly of McLeod, Young & Weir Ltd., in Ottawa, is pleased to announce his establishment in independent business. Murray will be handling personal financial planning under the name of DEVON Financial Services.

Duncan Kennedy, BA/72, also holds a Theology degree and a master's of Divinity from McGill University. He was ordained in 1982, and is currently minister of Knox Presbyterian Church in Ottawa. Duncan is married to **Katalin (Andras)**, BA/73, a social service program officer at Health and Welfare Canada.

Robert Moore, BA/72, lives in Toronto, and is married with two daughters. Robert, who also holds an MBA from Queen's University has his own consulting practice, Moore Associates, which is located in the Toronto-Dominion Centre.

73

Ray Aboud, BJ/73, formerly national reporter with CBC Radio in Winnipeg, has moved to Ottawa to take up the position of Parliamentary reporter with CBC Radio.

Michael Babin, BAHons/74, and his wife Susan, are pleased to announce the birth of their first child, Marc Robert on July 3, 1985.

Louise Burkholder (Foucault), BAHons/73, and her husband, **Paul**, BA/74, live in St. Albert, Alberta, and have two children, Michele (4), and Steven (2). Louise works for Dialogue Canada, and teaches French to adults, and Paul works for the Federal Government.

Brian Gallup, BA/73, lives in Kanata, Ontario, and is employed as a Research Associate at Biokinetics & Associates in Ottawa.

T. Philip Hicks, BA/73, and his wife, Deborah, announce the birth of their first child, Adam George, on November 23, 1984. Philip is a faculty member in the Department of Medical Physiology at the University of Calgary.

Roland Orlie, BEng/73, is currently on leave from Northern Telecom (Germany), and is attending IMEDE in Lausanne, Switzerland in the program for executive development.

David Taylor, BAHons/73, MA/77, received his PhD from the University of East Anglia in Norwich, England. His dissertation topic was "Russian Foreign Policy 1725-1739". Dr. Taylor currently tutors a soviet politics course for the open university.

Vincent Westwick, BA/73 (SPC), graduated with a degree in Law from Queen's University in 1983. He was called to the Ontario Bar in April 1985, and has set up practice in Ottawa.

Rob Wilson, BJ/73, married Irene Magriplis on June 15, 1985, in Newcastle, New South Wales, Australia. Following a honeymoon in Queensland and Hawaii, the couple returned to Kitchener, Ontario, where Rob is Head of Press and Radio Services with the Ontario Ministry of Agriculture Communications Branch.

74

Honora Johannesen (MacDonald), BA/74, is currently enjoying a year off from her position teaching English as a second language for NATO in Germany.

Brenda Kenney, BSc/74, resides in Guelph, Ontario, and is married with two children, aged 6 and 3. Brenda currently teaches at a high school in the area.

John Poirier, BCom/74, was elected Director of the Worldwide Association of The Institute of Internal Auditors, Inc., at the 44th International Conference held in Sydney, Australia in July 1985.

Andrew Spolsky, BEng/74, MEng/80, has returned to Canada after three years in the United States, to take up the position of V.P. Engineering with Electronic News Group Inc., in Toronto.

75

Hal Beatty, BCom/75, and his wife Linda are pleased to announce the birth of their son, Travis on April 9, 1985.

Peter Doherty, BA/75, formerly with J.R.F. Financial Consultants, in Ottawa, Ontario, has owned his own company, P.J. Doherty & Associates, since 1979.

Heather Jamieson, BJ/75, and her husband, Jean Hache, are pleased to announce the birth of their second child, a son, born May 15, 1985, a brother for Louisa born 1983.

Paula Maiorani, BA/75, has been married for four years to Paolo Marcarelli. The couple lives in Perugia, Italy, where Paula works as an interpreter.

John Masters, BA/75, has accepted a promotion with Honeywell Information Systems in Toronto, Ontario as a Product Promotion Manager.

Linda O'Neil, BJ/75, is the Executive Director of the Canadian Research Institute for the Advancement of Women, in Ottawa, and recently attended the U.N. International Women's Conference in Nairobi. Linda says that her job is the realisation of a long-time dream of getting paid to be a feminist.

76

J. Chris Davies, BScHons/76, defended his PhD on March 6, 1985 at Queen's University in Kingston, Ontario. He is currently the director of the Queen's University Tundra Biology Station near Churchill, Manitoba.

Peter Hamilton, BA/76, recently moved to a position in the postings and careers division of National Defence Headquarters in Ottawa. Colonel Hamilton formerly commanded the Canadian Forces Base at North Bay, Ontario.

Gail Lucken (Courtney), BA/76 and her husband **Steve**, BSc/77, live in Toronto, Ontario. Gail is an Intensive Care Nurse at the Hospital for Sick Children, and Steve works in the Corporate Credit Department of the Bank of Nova Scotia.

Don Mackay, BEng/76, lives in Lloydminster, Alberta, and is employed as a Project Engineer with Dome Petroleum.

Karin Myers (Yazer), MSW/76, and her husband Tony are proud to announce the birth of their second child, Michael Samuel, a brother for David Anthony. Karin is in the field of Special Education and works with mentally handicapped children.

Don Nichol, BAHons/76, MA/78, completed his PhD on "Pope and the 18th Century Book Trade" at the University of Edinburgh in 1984. He has since become an assistant professor with the Department of English at Memorial University in Newfoundland. Don married Susan Aitken of North Berwick, Scotland, on January 5, 1985.

Jane Reid, BA/76, received her masters in Education in 1984. Jane specializes in community counselling and is currently employed by the Counselling Services of Saint Mary's University in Halifax, Nova Scotia.

Jim Silver, MA/76, is an Assistant Professor of Political Science at the University of Winnipeg. He was recently presented with the 1985 Clifford J. Robson Award for Excellence in Teaching at the University's spring convocation.

Randall Wahab, BA/76, is married to **Maret Porter**, BA/75, and they have two children, Matthew (4), and Adam (1½). Randall is Chief, Procurement Section, Supply & Services Canada, and was also recently elected President, Purchasing Management Association of Canada, for the Ottawa district.

77

Patricia Abbott, BA/77, works for *Protect Yourself* magazine, published by the Quebec consumer protection office, and has also become a regular contributor to CBC's Radio Noon in Montreal. Patricia says she would love to hear from anyone who was on Fourth Lanark from 1975-77.

Christopher Baker, BSc/77, and his wife Sandra, are pleased to announce the birth of Kimberley Ann on April 3, 1985, a sister for Jeffrey age 4. The Bakers reside in Ajax, Ontario, and Chris has been employed as a World Trade Administrator in the Traffic Department of IBM Canada since October, 1984.

Tom Bluger, BAHons/77, was ordained to the Catholic Priesthood for the diocese of Ottawa on June 16, 1984. Tom also has a master's degree from St. Paul University in Ottawa, and is currently the Youth Director and Vocation Director for the diocese of Ottawa.

Will Chabun, BJ/77, is on leave of absence from the *Regina Leader-Post*, and is currently studying for his master's degree in media administration at Syracuse University's S.I. Newhouse School of Public Communications. Coincidentally, Will is in the same class as **Leanne Stuart**, BJ/77; apparently the two Carleton grads had not seen each other in eight years. Leanne, formerly with Metropolitan Life in Ottawa, is at Syracuse working on her master's degree in Telecommunications.

Mary Grunmeier, BSc/77, BScHons/79, lives in Edison, New Jersey, and was recently appointed Executive Vice-President of Daniel Adams Associates, a firm of independent publishers' representatives which sells space in industrial magazines in the mid-Atlantic territory.

James Hale, BA/77, recently became Assistant Editor of *Legion Magazine*, the national publication of the Royal Canadian Legion, after three years as Senior Editor of *Ottawa Magazine*. James still continues to write an arts column for the Ottawa magazine.

Ian Hornby, BA/77, is currently a graduate student in Public Administration at Harvard University's Kennedy School of Government, and has already been accepted into the PhD program in Public Policy.

Lawrence Krauss, BScHons/77, and his wife, **Kate Kelley**, BA/77, are pleased to announce the birth of their daughter, Lillian Kelley on November 23, 1984. Lawrence completed his PhD in Physics at M.I.T. in 1982 and was appointed to the Harvard Society of Fellows. He recently accepted positions as Assistant professor of Physics at Yale University, and Visiting Scientist at Harvard Smithsonion Centre for Astrophysics.

Lorna Loomis, BA/77, has accepted a position as a program officer with Health and Welfare Canada, Income Security Branch. Lorna is also a part-time student at Algonquin College in Ottawa in the Business Administration program.

Steve Lucken, BSc/77, and his wife, **Gail (Courtney)**, BA/76, live in Toronto, Ontario. Steve works for the Bank of Nova Scotia in the Corporate Credit Department, and Gail is an Intensive Care Nurse at the Hospital for Sick Children.

Daniel Olson, MA/77, received an award for "Excellence in Secondary School Teaching" from the University of Rochester, New York, in April 1985. Daniel and his wife, Patricia would also like to announce the birth of their son, Erik, on January 21, 1985.

Louis K.Y. Tse, BEng/77, is employed as Assistant Resident Engineer for Mass Rapid Transit Corporation in Singapore.

78

Susan Francis, BJ/78, lives in Edmonton, Alberta and is employed as Manager of Public Affairs, Western Region, for Health and Welfare Canada.

Steve Garrison, BA/78, and his wife, **Penny (Smith)**, BJ/79, are pleased to announce the birth of their first child, Janelle Christine on November 20, 1984.

Connie Harvey, MA/78, lives in Ottawa, and is currently doing contract work for the Multiculturalism Directorate. Connie is married to Autor Wasson, and has a daughter, Devika (3), and a son, Rajinder aged 4 months.

Mark Heinrich, BJ/78, formerly with the Associated Press foreign desk in New York, was appointed correspondent for AP in Frankfurt, West Germany.

Gregory Lindeblom, BAHons/78, has resigned from his position as Vice-President at California Canadian Bank in San Francisco, and has begun a six-month round the world adventure.

Karin Little, BA/78, and her husband **Richard Belanger**, BSc/80, have moved back to Belleville, Ontario, to open an independant toy store, after seven years in Ottawa. The couple have one son, Christopher, born November 21, 1983.

Debra Prupas, BA/78, was called to the Ontario Bar in 1983, and worked with the Canadian Transport Commission for two years. Debra recently began working in the Privy Council Office of the Department of Justice in Ottawa.

Ginette Purser (Latendresse), BA/78, and her husband Paul, recently moved from Nova Scotia to Toronto where Ginette is employed as a Research Worker for the Ontario Society for Autistic Children.

Phil Taylor, BCom/78, received his MBA in 1979 from York University, and is now Director of Marketing with Royal Trust in Toronto. Phil is married to **Helen M. Zongora**, BCom/78.

Douglas Wilson, BArch/78, married **Valerie Underwood**, BArch/78, at St. Wilfrid's Anglican Church in Toronto. Douglas has his own architectural practice in Edmonton, and Valerie is a registered architect with the Cohos Eramy Partnership.

June Angus, BJ/79, and her husband, **Don Stewart**, BA/67, are pleased to announce the birth of their son Jason on June 3, 1985. The family currently resides in Montreal, where June produces employee publications for the Royal Bank of Canada, and Don has his own business which manufactures and distributes hydroponic gardening equipment.

79

Daniel Arnold, BA/79, BAHons/80, was called to the Ontario Bar on April 17, 1985, and now practises law in Ottawa, with the firm of Bosada, Moore.

Michael Cvetanovic, BSc/79, has left the oil fields of Colorado, U.S.A., for Australia. Michael would appreciate hearing from former classmates.

Dan Davidson, BA/79, and his wife Cathryn, have returned to the Ottawa area from North Bay, Ontario where Dan received his BEd from Nipissing University College.

Elaine Ellis, BA/79, moved to London, England, in 1980, and says she loves every minute of her stay there. Elaine also says a big "Hello" to everyone from Fourth Grenville.

Margaret Emery, BJ/79, has accepted a reporting job with the *Carlisle Sentinel* daily newspaper in Carlisle, Pennsylvania.

David Guy, BJ/79, has been employed with the Parliament Hill Bureau of News Radio in Ottawa since June 1984. David will be marrying **Jane Taber**, BJ/79, in October 1985.

Terrance Lavender, BA/79, was recently elected president of the North Vancouver-Seymour New Democratic Party Constituency Association. He is currently employed as assistant editor of the UBC *Alumni Chronicle*.

Jane Taber, BJ/79, returned to Canada after a year working in England and Africa, and now works as the Legal Affairs writer for the (Ottawa) *Citizen*. Jane will be marrying **David Guy**, BJ/79 in October 1985.

Peter Yuan, MSc/79, recently completed his PhD in Geology at Louisiana State University. Peter lives in Tainan, Taiwan and teaches at National Cheng Kung University.

80

John Fisher, BA/80, lives in Toronto, Ontario and is employed as a marketing consultant with Wardair. On May 16, 1985, John married Catherine Jane Baynton of Edmonton, Alberta.

John Forester, BCom/80, received his degree of Master of Business Adminstration at the June Convocation of the University of Western Ontario. John also holds his R.I.A. certification, and is currently employed with Nesbitt Thomson Inc. of Toronto.

David Gervin, BAHons/80, has started his own company specializing in building brick driveways, sundecks and patios.

Tony Masciantonio, BEng/80, and his wife **Debbie**, BA/80, are proud to announce the birth of their daughter, Jenna Marie on October 5, 1984. Tony has been employed with Anthes Equipment of Mississauga since October 1980, and is now manager of the Engineering Department.

Steve Salmond, MA/80, is currently practising law with the firm of Ashurst, Main, McMartin & Kehler in Victoria. Steve and his wife Margo have one child, Ryan, born April 7, 1985.

David Weston, BA/80, currently owns and operates the D.F. Weston Studio of Music, in Niagara Falls, Ontario. His students compete in many music festivals, and major annual competitions. David was recently featured as "Volunteer of the Week" in the *Niagara Falls Review* for work done with a local school, and has been asked to aid in the design and management of a new 500-student capacity music studio which will be located in Thorold, Ontario. David is married to Christine Heppenstall, and they have two sons, Gregory and Derek.

Gordon Wilfong, BScHons/80, received his PhD in Computer Science from Cornell University in 1984, and has worked with the Robotics Research Group at AT&T Bell Laboratories in Murray Hill, New Jersey since September 1984. Gordon married Lorna Allen in August 1984.

Nancy York, BSc/80, and her husband Bill Larsen, have returned to Ottawa after four years in the United States. Nancy's husband is with the Canadian Armed Forces, and they have a son, Steven aged two.

81

Kyle Friesen, BAHons/81, was called to the British Columbia Bar in June 1985. He also married Vivian Wiens of Vancouver in July 1985, and the couple will continue to reside on the west coast where Kyle will practise law.

Kwai-Kwong (Kirby) Lam, BEng/81, MEng/84, lives in Costa Mesa, California, and has worked for Rockwell International in Newport Beach since May, 1984.

Micheline McKay, BA/81, BAHons/83, is an economist with the Intergovernmental Finance, Policy Branch of the Department of Treasury and Economics in Toronto.

Brian McKinstry, MSc/81, is a staff coal geologist with Crows Nest Resources Ltd., in Calgary, Alberta.

Mary Shaw (Fitzhenry), BJ/81, is the Press Officer for the British Sports Council in London, England.

John Vandenakker, BA/81, recently graduated from St. Paul University in Ottawa, with a master's degree in Theology. He was ordained as a Roman Catholic Priest for the Archdiocese of Ottawa, on June 15, 1985.

Nancy Warren (Verrall), BJ/81, and her husband Mark, are pleased to announce the birth of their daughter, Ashley Rebecca on May 29, 1985.

82

Peter Behie, BAHons/82, a recent law graduate from the University of Victoria, will serve as a law clerk to Mr. Justice William McIntyre in the Supreme Court of Canada for the 1985-86 year. After his term at the Supreme Court is completed, Peter will article with the Vancouver firm of Lawson, Lundell, Lawson & McIntosh.

Keith Boswell, MA/82, was recently called to the Ontario Bar, and is employed with the law firm of McMillan Binch in Toronto.

William Bresnahan, BA/82, was ordained to the Christian ministry on May 4, 1985, and accepted a call from the West Lane United Baptist Church in Moncton, New Brunswick, effective June 30th. William, who also holds a Master of Divinity from Acadia Divinity College in Wolfeville, Nova Scotia, is currently pursuing further studies at Acadia towards a master's degree in Religious Education. He is married to Nancy Lapierre of Arnprior, Ontario, and the couple has one son, Scott.

Gary Costello, MA/82, is currently working for the International Development Research Centre (IDRC) as a Regional Program Officer for Latin America and the Carribean, based in Bogata, Colombia.

Joe Hickson, BA/82, married Susan Simpson on July 2, 1983. Joe is a controller for Rothwell Seeds in Lindsay, Ontario, and Susan is with the Lindsay Police Department.

Suzanne Morphet, BJ/82, lives in Yellowknife, N.W.T., and works as a radio reporter/editor for CBC Radio News.

Daniel Poliquin, MA/82, was awarded a $3,500 grant from the Ontario Arts Council for his work as a writer. His first novel, *Temps Pascal*, was published in Montreal in 1982. Daniel is currently a practising translator and a PhD candidate in French at the University of Ottawa.

George Romas, BA/82, was elected president of the Montreal branch of the World Federalists of Canada, in March 1985. At age 24, he is the youngest president of any world federalist branch. The world federalist movement promotes the rule of law in international affairs and strengthening of the United Nations.

Freddy Jee-Quan Woon, BA/82, recently graduated from University of London (England) with a degree in Law. Freddy is now a barrister student at the Inns of Court School of Law, and will be reading for his LL.M degree at the University of Cambridge in October 1986.

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Woodland Indian Artist

Benjamin Chee Chee

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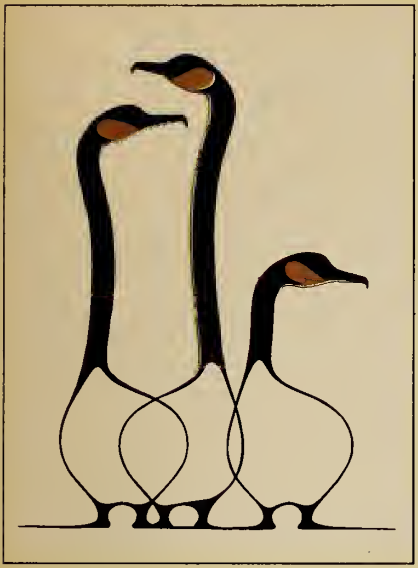
A mainly self-taught artist, Chee Chee was a prominent member of the second generation of woodland Indian painters.

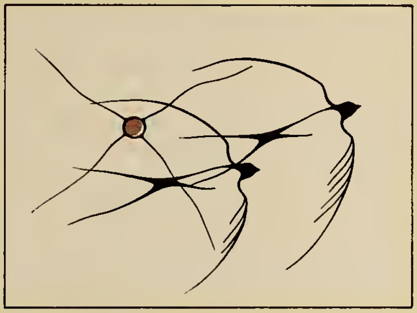
Unlike many of his contemporaries who employed direct and "primitive" means, Chee Chee's work was influenced by modern abstraction. His style reduced line and image in keeping with international modern art.

At the age of 32, at the height of his success, Chee Chee died tragically by suicide.

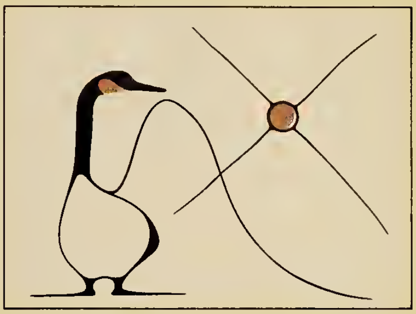
These reproductions are printed on high quality, textured stock and measure 48 cm x 61 cm (19"x24").



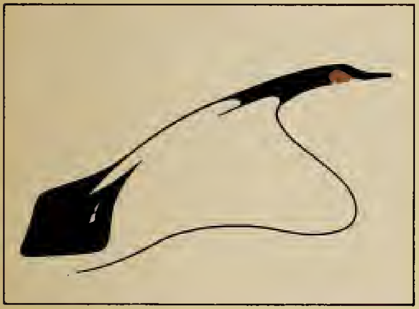
***A** Friends*



***B** Swallows*



***C** Good Morning*



***D** Proud Male*

***E** Mother & Child*

***F** Sun Bird*

***G** Spring Flight*

***H** Wait For Me*

***I** Autumn Flight*

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